

**2009 Annual Report  
St. Regis Paper Company Site  
Cass Lake, Minnesota**

**March 2010**

Prepared for:  
**US Environmental Protection Agency, Region 5**

Prepared by:  
**International Paper Project Team:**

**International Paper  
6400 Poplar Avenue  
Memphis, TN 38197**

**Barr Engineering Company  
4700 West 77<sup>th</sup> Street  
Minneapolis, MN 55347**

**INTERNATIONAL  PAPER**

# 2009 Annual Report

St. Regis Paper Company Site – Cass Lake, MN

March 2010

## Table of Contents

1.0	Introduction.....	1
2.0	Monitoring Activities.....	2
2.1	OU1 – Treating Facility Operable Unit .....	3
2.1.1	Activities .....	3
2.1.2	Water Levels .....	4
2.1.3	Water Quality.....	4
2.2	OU2 – Containment Vault Operable Unit.....	5
2.2.1	Activities .....	5
2.2.2	Water Levels .....	5
2.2.3	Water Quality.....	5
2.3	OU3 – City Dump Pit Operable Unit.....	5
2.3.1	Activities .....	5
2.3.1.1	NAPL Investigation.....	5
2.3.1.2	Extraction System .....	6
2.3.2	Water Levels .....	6
2.3.3	Water Quality.....	7
2.4	Groundwater Treatment System .....	7
2.4.1	Activities .....	7
2.4.2	Water Quality.....	8
2.4.2.1	Effluent Monitoring.....	8
2.4.2.2	GAC Performance Monitoring.....	8
2.5	Fish Hatchery Wells.....	9
2.6	MDNR Well #11016.....	9
2.7	Product Monitoring and Collection Activities .....	9
3.0	Monitoring Results.....	11
3.1	Groundwater Elevations.....	11
3.2	Water Quality Monitoring Results .....	12
3.2.1	OU1 – Treating Facility Operable Unit .....	13
3.2.2	OU2 – Containment Vault Operable Unit.....	15
3.2.3	OU3 – City Dump Pit Operable Unit.....	15

3.2.4	OU1 and OU3 Extraction Wells .....	16
3.2.5	Groundwater Treatment System .....	17
3.2.6	Fish Hatchery Wells.....	18
3.2.7	MDNR Well #11016.....	18
3.3	Vault Inspection.....	18
3.3.1	Run-On and Runoff Control Systems .....	18
3.3.2	Leachate Collection and Leak Detection Systems.....	18
3.3.3	Benchmarks and Wells .....	18
3.3.4	Security System .....	19
3.3.5	Corrective Actions .....	19
3.4	Vault Dewatering Activities .....	19
4.0	Summary .....	20
5.0	Recommendations.....	23
6.0	Monitoring Plan for 2010.....	25
6.1	Monitoring Activities.....	25
6.1.1	Capture Zone Confirmation .....	25
6.1.1.1	Extraction System Maintenance Plan.....	25
6.1.1.2	Hydraulic Capture Zone Monitoring.....	25
6.1.2	Containment Vault Postclosure Inspection .....	27
6.1.3	Water Quality Monitoring Plan.....	27
6.1.4	Effluent and GAC Performance Monitoring Plan.....	27
6.1.5	Fish Tissue Samples.....	27
6.2	Product Monitoring and Collection.....	27
6.3	Reporting .....	28
6.3.1	Quarterly Progress Report.....	28
6.3.2	Annual Report.....	28

## List of Tables

Table 1	2009 Annual Monitoring Event Summary
Table 2	2009 Quarterly Monitoring Event Summary
Table 3	2009 Monthly Monitoring Event Summary
Table 4	Comprehensive List of Wells - 2009 Update
Table 5	Summary of Groundwater Extraction Rates and Precipitation
Table 6	Routine Parameter List and Method Reporting Limits
Table 7	Additional Parameter List and Method Reporting Limits
Table 8	2009 Water Elevations
Table 9	Groundwater Quality Data, Shallow Surficial Aquifer - OU1
Table 10	Groundwater Quality Data, Base of Surficial Aquifer - OU1
Table 11	Groundwater Quality Data, Lower Aquifer - OU1
Table 12	Surface Water Quality Data, Cass Lake/Pike Bay Channel
Table 13	Groundwater Quality Data over Time - OU1
Table 14	Groundwater Quality Data, Additional Parameters and Intervention Limits – OU1
Table 15	Groundwater Quality Data, Surficial Aquifer - OU2
Table 16	Groundwater Quality Data, Lower Aquifer - OU2
Table 17	Groundwater Quality Data over Time - OU2
Table 18	Groundwater Quality Data, Shallow Surficial Aquifer - OU3
Table 19	Groundwater Quality Data, Base of Surficial Aquifer - OU3
Table 20	Groundwater Quality Data, Lower Aquifer, OU3
Table 21	Groundwater Quality Data over Time – OU3
Table 22	Groundwater Quality Data, Additional Parameters and Intervention Limits – OU3
Table 23	Water Quality Data Over Time - Extraction Wells
Table 24	Water Quality Data, Pentachlorophenol, Groundwater Treatment System
Table 25	Water Quality Data, Effluent, Groundwater Treatment System
Table 26	2007 Monthly Flow Rate, Groundwater Treatment System
Table 27	2007 Average Monthly pH Data, Groundwater Treatment System
Table 28	Groundwater Quality Data, Lower Aquifer, Fish Hatchery Wells
Table 29	Water Quality Data Over Time, Fish Hatchery Wells
Table 30	Water Quality Data, MDNR Well #11016
Table 31	Leachate Elevations - OU2
Table 32	Benchmark Elevations – OU2
Table 33	Annual Sample Program - 2010

Table 34 Quarterly Sample Program - 2010

Table 35 Monthly Sample Program - 2010

### **List of Figures**

- Figure 1 St. Regis Paper Company Site
- Figure 2 Monitoring Stations
- Figure 3 Groundwater Elevations and Contours, Surficial Aquifer OU1, May 2009
- Figure 4 Groundwater Elevations and Contours, Top of Surficial Aquifer OU3, May 2009
- Figure 5 Groundwater Elevations and Contours, Bottom of Surficial Aquifer OU3, May 2009
- Figure 6 Groundwater Elevations and Contours, Lower Aquifer, May 2009
- Figure 7 Groundwater Elevations and Contours, Surficial Aquifer OU1, November 2009
- Figure 8 Groundwater Elevations and Contours, Top of Surficial Aquifer OU3, November 2009
- Figure 9 Groundwater Elevations and Contours, Bottom of Surficial Aquifer OU3, November 2009
- Figure 10 Groundwater Elevations and Contours, Lower Aquifer, November 2009
- Figure 11 Pentachlorophenol Distribution, Surficial Aquifer, May 2009
- Figure 12 Naphthalene Distribution, Surficial Aquifer, May 2009
- Figure 13 Leachate Elevations, OU2 Containment Vault

### **List of Appendices**

- Appendix A Quality Control Review
- Appendix B Laboratory Analytical Reports
- Appendix C Containment Vault Inspection Forms
- Appendix D Water Quality Trend Analysis
- Appendix E Soil Boring and Monitoring Well Logs for 2008
- Appendix F Spent GAC Documentation
- Appendix G Delineation of Hydraulic Capture Zone
- Appendix H StationID, SampleID & FieldID Cross Reference Summary Table

# 1.0 Introduction

---

This annual report has been prepared to fulfill the requirements of Section IX, Paragraphs 33, 34, and 35 of the January 24, 1995 Administrative Order (Order) issued by the U.S. Environmental Protection Agency pursuant to Section 106(a) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 as amended, (CERCLA) 42 U.S.C. § 9601 (a) for the St. Regis Paper Company Site.

The January 24, 1995 Order designated the following operable units at the Site:

- OU1 (Treating Facility Operable Unit)
- OU2 (Containment Vault Operable Unit)
- OU3 (City Dump Pit Operable Unit)

These operable units are shown on Figure 1. Construction and implementation of the response actions at the Site began in 1985 and were completed in 1987. Operation and maintenance of the selected response actions are continuing.

This annual report summarizes the results of routine monitoring and maintenance activities at the Site. The 2010 activities are recommended in section 5.0 of the 2009 Annual Report.

## 2.0 Monitoring Activities

---

Monitoring at the Site in 2009 was conducted in accordance with and as required by the following permits and plans:

- The January 24, 1995 Administrative Order (Order) issued by the U.S. Environmental Protection Agency pursuant to Section 106(a) of CERCLA, 42 U.S.C. § 9601 (a).
- Recommendations in the 2008 Annual Monitoring Report.
- Approved Quality Assurance Project Plan, Revision 2, St. Regis Paper Company Sites, (August 28, 2006).

The geologic and hydrogeologic conditions at the Site are described in the following reports:

- Remedial Investigation/Alternatives Report (April 1985).
- Supplemental Remedial Investigation Report (July 1985).
- Groundwater Flow Model, Model Construction (May 1996).
- Hydraulic Capture Zone Report (Revised March 2008)

Monitoring wells at the Site are identified according to the following numbering system, which is based on the screened interval of the well:

Screened Interval	Well Number		
	OU1	OU2	OU3
Monitoring Wells			
Surficial Aquifer – Top		124-130	
Surficial Aquifer – Base	1XX	2XX	21XX
Lower Aquifer	2XX	3XX	22XX
	3XX		23XX
Extraction Wells			
Surficial Aquifer	4XX	--	24XX
Observation/Scavenger Wells			
Surficial Aquifer	5XX	--	25XX

The monitoring wells at OU2 (Wells 124 through 130) are screened throughout the saturated thickness of the surficial aquifer.

The following sections summarize the monitoring activities conducted in 2009 at each of the operable units. These monitoring activities consisted of measuring groundwater levels, collecting and

analyzing groundwater and surface water samples, and inspecting the containment vault. Tables 1 and 2 summarize the 2009 sampling events and the locations monitored during each sampling event. The locations of the groundwater and surface water monitoring stations are shown on Figure 2.

## 2.1 OU1 – Treating Facility Operable Unit

### 2.1.1 Activities

International Paper is authorized to appropriate up to  $131 \times 10^6$  gallons per year at OU1 as detailed in Water Appropriation Permit # 86-3108. The maximum design capacity and approximate 2009 annual average pumping rate for each extraction well are compared to 2007 and 2008 annual average rates in the following table:

Extraction Well	Maximum Design Capacity <sup>1</sup> [gpm]	2007 Pumping Rate [gpm]	2008 Pumping Rate [gpm]	2009 Pumping Rate [gpm]
401	15	6.0	5.5	5.4
402	15	5.4	5.4	5.1
403	25	6.6	6.3	5.8
404 <sup>2</sup>	25	0	0	14
405	25	13.3	15.9	20.
406	25	7.9	9.1	8.5
407	25	8.7	9.8	10.2
408 <sup>3</sup>	15	4.6	4.6	0.6
409	25	16.7	14.5	17.8
410	25	5.2	5.0	4.8
<b>Total</b>	<b>220</b>	<b>74.4</b>	<b>76.1</b>	<b>81.9</b>

---

<sup>1</sup> Table 1. *Response Action Final Report, Cass Lake Treating Facility Site*, Prepared for Champion International. September 1988.

<sup>2</sup> Well 404 was returned to service in September and is operating at about 14 gpm.

<sup>3</sup> Well 408 stopped operating in February and the forcemain will be replaced in 2010.

The OU1 extraction system was maintained as described in the *Operation and Maintenance Plan, St. Regis Paper Company Site, Cass Lake, Minnesota*, dated March, 1995. Maintenance activities included installing new pumps and/or jetting of the well screen for certain extraction wells.

Maintenance activities and daily discharge volumes are documented in the quarterly progress reports that were submitted to EPA. Table 5 presents the average pumping rate by month for each extraction well, along with the monthly precipitation.

### **2.1.2 Water Levels**

Water levels were measured at the OU1 monitoring wells, piezometers, and staff gages in May and October, 2009. Well 222 was not accessible during October due to active construction of the Enbridge pipeline line construction through this area. DNR well #11016 is no longer present and was likely removed during the Enbridge Energy pipeline construction through that area. Groundwater elevations were estimated for these locations to aid the hydraulic capture zone evaluation.

### **2.1.3 Water Quality**

Water samples were collected from the OU1 monitoring wells in May 2009. Groundwater samples were collected from monitoring wells screened in the surficial aquifer (top and bottom) and the lower aquifer. All samples were analyzed for pentachlorophenol (PCP) and the polyaromatic hydrocarbon (PAH) compounds listed in Table 6. Samples from monitoring wells 215 and 220 were analyzed for the extended list PAHs (Table 7) as described in the 2009 Monitoring Plan.

In addition, water samples were collected from monitoring wells included in the quarterly monitoring program (212, 213, and 220) in February, May, August and November 2009. Note that 212 was not sampled in February because the water column in the well was frozen. These samples were analyzed for benzene, toluene, ethyl benzene and xylene, diesel range organics (DRO), and dioxins/furans as well as PCP and PAHs. A water sample was collected from well 105R in November to evaluate the effect of operating extraction well 404. This sample was analyzed for PCP and PAH compounds.

Surface water samples were collected on May 12, 2009 at the north end (CL-N) and south end (CL-S) of the channel connecting Cass Lake and Pike Bay. These samples were analyzed for PCP.

The locations of the OU1 monitoring stations are shown in Figure 2.

## **2.2 OU2 – Containment Vault Operable Unit**

### **2.2.1 Activities**

The containment vault was inspected on May 11 and November 3, 2009. Results of the inspections are discussed in Section 3.3 of this report.

Four new wells were installed in the OU2 area in July, 2009 to support the aquifer test at the Fish Hatchery's south production well (Fish 4). One well (231) is located on Hatchery property. Wells 324, 329 and 330 are screened in the lower aquifer and are nested with wells around the containment vault. Refer to Appendix E for boring logs for each of these wells. The locations of the OU2 monitoring stations are shown in Figure 2. The results of the aquifer test are presented in a separate report.

### **2.2.2 Water Levels**

Water levels were measured at the OU2 monitoring wells in May and November 2009. Water levels were also measured during the aquifer test, and this data is included in the aquifer test report.

### **2.2.3 Water Quality**

The vault monitoring wells were sampled in May, and the samples were analyzed for PCP and the PAH compounds in Table 6. The newly installed lower aquifer monitoring wells were sampled in November and the samples were analyzed for PCP and PAH compounds in Table 6. The locations of the OU2 monitoring stations are shown in Figure 2.

## **2.3 OU3 – City Dump Pit Operable Unit**

### **2.3.1 Activities**

#### **2.3.1.1 NAPL Investigation**

EPA requested additional NAPL Investigation activities in a December 23, 2008 letter that provided comments on the NAPL Investigation Report dated November 2008. International Paper developed a field sampling plan to define the investigation activities and implemented the approved plan in February/March of 2009. Ten direct-push borings were placed for laser induced fluorescence (LIF) instruments used to evaluate NAPL extent. Fifteen confirmatory boreholes were cored to gather further data to further define soil type, and LIF readings and NAPL presence.

Three additional wells were installed at OU3 (2140, 2239 and 2339). Well 2140 is located east of extraction well 2402 and is screened at the top of the surficial aquifer. Well 2239 (screened at the base of the surficial aquifer) and 2339 (screened in the lower aquifer) are nested wells. A

replacement well 2237R was constructed adjacent to well 2237, which was inadvertently plugged with grout during its construction in 2008. Well 2237 was sealed as required by Minnesota water well code. Boring logs for these wells are contained in appendix E.

### 2.3.1.2 Extraction System

International Paper is authorized to appropriate up to  $32 \times 10^6$  gallons per year at OU3 as detailed in Water Appropriation Permit # 87-3285. The maximum design capacity and approximate 2009 annual average pumping rate for each OU3 extraction well are compared to the 2007 and 2008 annual average rates in the following table:

Extraction Well	Maximum Design Capacity <sup>4</sup> [gpm]	2007 Pumping Rate [gpm]	2008 Pumping Rate [gpm]	2009 Pumping Rate [gpm]
2401	40	6.6	6.6	5.7
2402	40	16.5	15.5	13.1
2403	40	19.9	18.0	14.8
<b>Total</b>	<b>120</b>	<b>43.0</b>	<b>40.1</b>	<b>33.6</b>

The OU3 extraction system was maintained as described in the *Operation and Maintenance Plan, St. Regis Paper Company Site, Cass Lake, Minnesota*, dated March 1995. Maintenance activities included installing new pumps, pipes, and gauges and/or jetting of the well screen for certain extraction wells. Maintenance activities and daily discharge volumes are documented in the quarterly progress reports that were submitted to EPA in 2009. Table 5 presents the average pumping rate by month for each OU3 extraction well, along with the monthly precipitation.

### 2.3.2 Water Levels

Water levels were measured at OU3 monitoring wells and staff gages at OU3 in May and November 2009.

---

<sup>4</sup> Figure 4. *Response Action Final Report. Former City Dump Pit Site*. Prepared for Champion International. November 1988.

### **2.3.3 Water Quality**

In May, groundwater samples were collected from OU3 monitoring wells screened in the surficial aquifer (top and bottom) and lower aquifer. Samples were analyzed for PCP and the PAH compounds in Table 6. A sample from monitoring well 2128 was also analyzed for the extended list PAHs in Table 7 as described in the 2009 Monitoring Plan. In addition, a sample from well 2106 was analyzed for dioxins/furans. Of the three wells installed during the NAPL Investigation, wells 2228 and 2238 were sampled in May and the samples analyzed for PCP, PAHs, extended list PAHs, benzene, toluene, ethyl benzene and xylene, diesel range organics (DRO), dioxins/furans, and metals. Well 2237 was not sampled because the well screen was plugged with grout, rendering the well unusable.

Water samples were collected from monitoring wells 2128, 2233, 2236 and 2336 included in the quarterly monitoring program in February, May, August and November 2009, with the exception of W2128 in February as the water column was frozen. These samples were analyzed for benzene, toluene, ethyl benzene and xylene, diesel range organics (DRO), and dioxins/furans in addition to PCP and PAH. The quarterly program was initiated in September 2006 at the request of EPA.

Water samples were also collected from the new wells 2140, 2239, 2339. These samples were analyzed for benzene, toluene, ethyl benzene and xylene, diesel range organics (DRO), and dioxins/furans in addition to PCP and PAH.

The locations of the OU3 monitoring stations are shown on Figure 2.

## **2.4 Groundwater Treatment System**

The extracted groundwater from the OU1 and OU3 extraction systems is treated prior to discharge to the Cass Lake/Pike Bay Channel to meet effluent limits specified in the NPDES and State Disposal System Permit No. MN0056537 and by EPA (August 15, 2005 letter). International Paper is authorized to discharge treated water to the channel connecting Cass Lake and Pike Bay at a maximum rate of 288,000 gallons per day (i.e., 200 gpm).

The groundwater treatment system utilizes granular activated carbon and consists of three 20,000 lbs carbon units operated in series. The carbon units are designated Adsorber "A", "B", and "C".

### **2.4.1 Activities**

In 2009, the carbon system was operated as indicated below:

Date	Primary	Secondary	Tertiary
Begin 2009	C	A	B
Change-out C on 3/18/09	A	B	C
Change-out A on 9/11/09	B	C	A
Change-out B on 10/29/09	C	A	B
End 2009	C	A	B

During change-out, the spent carbon is removed from the primary adsorber and replaced with fresh carbon. After change-out, the primary vessel is switched to the tertiary position, the tertiary vessel is switched to the secondary position, and the secondary vessel becomes the primary. The spent carbon is dewatered on-site and was transported to Clean Harbors Canada Inc for disposal as it was determined that the carbon could no longer be regenerated and reused to the Cass lake Site.

In addition, five batches of regenerated carbon were being stored at the regeneration facility for reuse at the Cass Lake Site. This regenerated carbon was also determined to have reached its useful life and was transported to Clean Harbors Canada Inc for disposal. The hazardous waste manifests are in Appendix F.

As discussed in the fourth quarter progress report, it is believed that the extensive well and screen maintenance activities that took place in late September caused sediment to accumulate in the lead adsorber (B at that time). The buildup resulted in a rapid loss in flow capacity and necessitated a change-out less than two months after the previous change-out.

## **2.4.2 Water Quality**

### **2.4.2.1 Effluent Monitoring**

Influent and effluent samples from the treatment system were collected as required by the revised monitoring program (EPA August 15, 2005).

### **2.4.2.2 GAC Performance Monitoring**

In addition to the effluent monitoring, samples are collected monthly from the influent and the effluent from each adsorber and analyzed for PCP. This information is used to evaluate PCP breakthrough and plan for GAC change-out.

## 2.5 Fish Hatchery Wells

Groundwater samples were collected from fish hatchery well 4 in May, 2009 and October, 2009. The October samples were collected to support the aquifer test conducted a Fish 4. All samples were analyzed for PCP and the PAH compounds in listed in Table 6. The locations of the fish hatchery wells are shown on Figure 2.

## 2.6 MDNR Well #11016

MDNR Well #11016 is not associated with the Site and was located north of the BNSF railroad tracks and downgradient of a former bulk petroleum storage facility. A groundwater sample was collected from this well in May, 2009 and was analyzed for PCP and the PAH compounds in Table 6. This well is no longer present and was likely removed during the Enbridge Energy pipeline project through that area. The former location of this well is shown on Figure 2.

## 2.7 Product Monitoring and Collection Activities

Floating product monitoring and collection activities are described in the Free Product Recovery/Reuse Plan, April 1993. Monitoring and collection activities were conducted on May 15, 2009. Product level was measured with an interface probe and a disposable bailer was used to recover product from the various product recovery wells. The product recovery activities are summarized in the following table:

Well ID	Product Level [feet below TOR]		Groundwater Level [feet below TOR]		Product Thickness [feet]		Recovered Product [Liters]
	Initial	Final	Initial	Final	Initial	Final	
<b>OU3 – City Dump Pit Area</b>							
W2105	19.08	---	23.46	20.02	4.38	---	2.7
W2104	None	NA	NA	NA	NA	NA	NA
W2103	None	NA	NA	NA	NA	NA	NA
W2102	None	NA	NA	NA	NA	NA	NA
W2502	6.21	---	6.28	6.22	0.07	---	0.1
W2504	7.06	---	7.69	7.07	0.63	---	0.4
2401	None	NA	NA	NA	NA	NA	NA
S2401	None	NA	NA	NA	NA	NA	NA
S2402	7.02	7.01	7.09	7.03	0.07	0.02	4.4

	Product Level [feet below TOR]		Groundwater Level [feet below TOR]		Product Thickness [feet]		
S2403	None	NA	NA	NA	NA	NA	NA
<b>OU1 – Treating Facility Area</b>							
SO401	None	NA	NA	NA	NA	NA	NA
SO402	None	NA	NA	NA	NA	NA	NA
SO403	None	NA	NA	NA	NA	NA	NA
SO405	None	NA	NA	NA	NA	NA	NA
W118	None	NA	NA	NA	NA	NA	NA
<b>Total</b>							<b>7.6 (2.0 gallons)</b>

TOR – top of riser            --- No measurement

NA – Not Applicable (i.e., no product present). These monitoring points are included based on previous findings.

Recovered product was placed in the accumulation tank at the water treatment building located at OU1. A total of approximately 167.8 gallons of floating product have been collected over the roughly 15-year period since product recovery began.

## 3.0 Monitoring Results

### 3.1 Groundwater Elevations

Groundwater elevations measured at each operable unit are summarized in Table 8. Groundwater elevations in the surficial and lower aquifers are consistent with those observed in the past. Figures depicting the groundwater elevation contours and approximate extent of the hydraulic capture zones are shown on Figures 3 through 10.

The groundwater containment system capture zones for OU1 and OU3, as interpreted from the piezometric surface from the GW Contour software (Waterloo Hydrogeologic, 2005) using the 2009 groundwater elevation data, meet the intent of the approved response actions. The details of the hydraulic capture zone delineation are provided in Appendix G.

The primary contaminant source at OU1 is being captured as the extraction wells have created a capture zone that encompasses the width of the contaminant plume. With the increased extraction at W404 (starting in September), the capture zone was expanded northward to include W105R and the PCP concentration was reduced to < 1 µg/l in the sample collected in November. The capture zone derived using the October data set (Figure 7) is wider than the capture zone depicted using the May data set (Figure 3). In addition, the sample collected from W220 in November also decreased to 1.0 µg/l, and PCP is no longer detected in samples collected from W215, which is located near the Cass Lake/Pike Bay channel.

Contaminant concentrations at stations east of the extraction wells (i.e., W212, W213, W215, and W220) have decreased over time due to the groundwater extraction system installed in 1987.

Station	Pentachlorophenol [µg/L]		Naphthalene [µg/L]	
	Jun. '87	Nov. '09	Jun. '87	Nov. '09
W212	8,900	9.0	740	0.34
W213	12,000	< 0.16	1,100	3.2
W215	5,900 <sup>(1)</sup>	<0.16	11	0.15
W220	1,000 <sup>(2)</sup>	1.0	363	0.22

<sup>(1)</sup> Sample collected Feb '87. Data from Jun. '87 sample appears to be anomalous (27,000 ug/l).

<sup>(2)</sup> Sample collected Jun. '94 after installation.

The rate of decrease has declined in the more recent years at wells W212 and W220. Continued operation of the groundwater extraction system should continue to reduce PCP and naphthalene concentrations at these locations. The forcemain to extraction well W408 will be replaced in 2010 and extraction well 408 will be reactivated. The groundwater extraction at W408 should expand the capture zone even further east toward W220 and the channel.

The capture zones delineated by water elevations at wells screened at the top of the surficial aquifer (Figures 4 and 8) are highly dependent on the groundwater elevation assigned to the Fox Creek control point which is located upgradient of the dump area and east of county road 147. The groundwater elevation is assigned based on the elevation at W2236 relative to the elevation at W2236 in 2006. The current method results in a sharp change in groundwater flow direction near W2104, which is not likely appropriate given previous groundwater flow evaluations.

The capture zones delineated by the groundwater elevations at wells screened at the top of the surficial indicate that W2105, W2128 and W2140 are at the limit capture zone. Two of the three samples from W2128 had PCP concentrations below the intervention limit.

The capture zone delineated by wells screened at the base on the surficial aquifer shows a larger capture zone that is less dependent on the Fox Creek control point. The two additional wells screened at the base of the surficial aquifer (W2239 and W2237R) provide additional real data for the capture zone evaluation. This evaluation is a mix of groundwater elevations for wells screened at the top and bottom of the surficial aquifer. Based on the capture zone depicted on Figures 5 and 9, the capture zone includes areas further south of W2105 (i.e., W2239). Wells 2228 and W2140 are still located on the fringe of the hydraulic capture zone. In an effort to expand the capture zone further east of W2140, the extraction rate at W2402 should be increased.

### **3.2 Water Quality Monitoring Results**

Samples were collected from monitoring wells and surface water stations at the Site and analyzed according to procedures specified in the QAPP, Revision 2. The quality control data are discussed in Appendix A, and laboratory analytical reports are in Appendix B. Analytical data tables provided in this report summarize the parameters and concentrations at each location. Parameters listed with the value followed by “U” or “<” symbol followed by a value were not detected in the sample at the value shown in the table. For 2009 data, the value shown is the method detection limit. Tables 13, 17, 21, 23 and 29 summarize data over time and the reporting requirements have changed. As such, the value on these tables may be the method detection limit or the method reporting limit. Estimated

values are denoted by the “J” qualifier in the data summary tables. These values are between the method reporting limit and the method detection limit. Other qualifiers are explained in detail in Appendix A.

In addition to the laboratory results, the tables show the following calculated results: BaP Equiv (ND = ½ DL) and BaP Equiv (ND = 0). These benzo(a)pyrene equivalency concentrations were calculated by using ½ of the method detection limit or zero, respectively, for compounds that were not detected in the sample.

Where appropriate, the groundwater quality data was compared to the intervention limits from the August 15, 2005 letter. The intervention limits for the PCDD/PCDF are orders of magnitude below analytical detection limits.

Water quality results and concentration contours for wells screened throughout the surficial aquifer are plotted on Figure 9 for PCP and Figure 10 for naphthalene. The PCP concentration contour no longer includes well 215, as PCP was not detected in samples from this location. PCP and naphthalene were not detected in the sample for the lower aquifer well at OU1. Trace PCP and naphthalene concentrations were detected in one of four samples collected from W2336 at OU3 and were not detected in the other lower aquifer well sample (W2335). Figures were not prepared for the water quality results in the lower aquifer.

Sampling procedures requires that a blind field ID be assigned to each sample. Appendix H provides a summary of the field ID and the associated SampleID and StationID for each sample.

The following sections summarize the analytical results of samples collected at the Site during 2009. The indicator monitoring stations and quarterly monitoring stations identified in Table 1 and 2 were sampled in 2009.

### **3.2.1 OU1 – Treating Facility Operable Unit**

The results from the analysis of samples collected from monitoring wells screened at the top of the surficial aquifer at OU1 are summarized in Table 9. PAH concentrations in the samples from wells 105R, 114 and 115 are below the drinking water criteria (i.e., maximum contaminant level (MCL) or Minnesota Health Risk Level (MN HRL)). A sample from well 105R collected in May showed a PCP concentration above the drinking water criterion. The sample from well 105R collected in November showed a PCP concentration below the drinking water criterion. This water quality

improvement may be the result of increasing the overall groundwater extraction rate at OU1 by reactivating extraction well 404 in September 2009.

It is assumed that PCP and PAH concentrations in samples from 118, the area product monitoring and collection well, would also exceed their respective drinking water criteria. Well 118 was not sampled in 2009 as product was present in the well during the November event.

Water quality at the top of the surficial aquifer meets intervention limits at monitoring wells nearest to the channel (i.e., wells 114, and 115).

The results from the analysis of samples collected from monitoring wells screened at the base of the surficial aquifer are summarized in Table 10. PAH concentrations are below the drinking water criteria for all samples from the monitoring wells screened at the base of the surficial aquifer. The PCP concentration is above the drinking water criterion in the samples from well 212 and three of four samples from well 220.

Table 11 summarizes the results from the analysis of the sample collected from the lower aquifer monitoring well 306 at OU1. PCP not detected in the sample from this lower aquifer monitoring well. PAH compounds were not detected in the sample with the exception of 2-methylnaphthalene and phenanthrene which were detected at trace concentrations.

The results from the PCP analysis of surface water samples from the north and south ends of the channel connecting Cass Lake and Pike Bay in May 2009 are summarized in Table 12. PCP was not detected in either surface water sample.

Table 13 summarizes the BaP Equivalency (ND = ½ DL), Naphthalene and PCP concentrations at each monitoring station over time. The data typically represent the water quality during the second quarter of each year. The May 2009 data are consistent with the trend (or lack there of) in previous results, as shown on the plots of PCP and Naphthalene concentration versus time in Appendix D. The graphs in Appendix D use open markers labeled 'Not Detected' if the parameter was not detected at or above the specified concentration.

PCP and naphthalene concentrations at W212 have been steady for the last five years, but the current concentrations are about three orders of magnitude lower than before the remedial system was operational. Groundwater flow may be stagnated in this area due to the groundwater extraction system. PCP is not detected in samples from W213 and the naphthalene concentration is variable but lower than previous data. PCP concentrations in samples from W220 show a slight increase between

2006 and 2008, but the 2009 concentration is lower. Naphthalene concentrations continue to decrease after leveling off above 10 ug/l for 8 years.

Additional monitoring of benzene, toluene, ethyl benzene and xylene, DRO, and PCDD/PCDF at monitoring wells 212, 213 and 220, and extended list PAHs at monitoring wells 215 and 220 was completed in 2009. The analytical results of this additional monitoring are summarized in Table 14. The reported concentrations are below the respective intervention limits specified for the additional parameters by EPA in the August 15, 2005 letter with the exception of DRO at well 213. The PCP concentration in samples from well 212 and two of four samples from well 220 exceeded the intervention limit. The anthracene concentration in samples from wells 213 and 220 exceeds the intervention limit. Operation of the groundwater extraction system will continue.

### **3.2.2 OU2 – Containment Vault Operable Unit**

The results from the analysis of samples collected from the containment vault monitoring wells are summarized in Tables 15 and 16. PCP and PAH concentrations are below the respective drinking water criterion. Carcinogenic PAH compounds and PCP were not detected in the samples. Trace concentrations of anthracene, acenaphthene, 2-methylnaphthalene, fluorene, naphthalene, and phenanthrene (non-carcinogenic PAH compounds) were detected in some samples, but the detected concentrations are orders-of-magnitude below drinking water criteria.

Trace concentrations of non-carcinogenic PAH compounds were detected in samples from the lower aquifer, but the concentrations are orders-of-magnitude below drinking water criteria.

The BaP Equivalency (ND = ½ DL), Naphthalene, and PCP concentrations in each well over time are shown in Table 17. Typical results are at or below the detection limits, and there is no indication of a trend of increasing concentrations in the samples from any of the wells.

### **3.2.3 OU3 – City Dump Pit Operable Unit**

The results from the analysis of samples collected in 2009 from the monitoring wells screened in the surficial aquifer at OU3 are summarized in Table 18. Concentrations of PAHs and PCP in samples collected from these monitoring wells are below their respective drinking water criteria except at wells 2106, 2128, and 2140, where the PCP concentrations are above the drinking water criterion. These wells are within the capture zone of the OU3 extraction system (Figures 4, 5, 8 and 9) as delineated by the May and October groundwater elevation data sets. Well 2106 is located in the center of the 3 extraction wells, and wells 2128 and 2140 are located near the fringe of the delineated capture zone.

Six dioxin/furan congeners were detected in the sample from 2106 (Table 18). Well 2106 was in the product recovery program and was added as a groundwater quality monitoring well in 2006 at the request of EPA. This well is expected to define the upper limit of contaminant concentrations at OU3. 2,3,7,8-TCDD was not detected in this sample, and the toxicity equivalency quotient for the sample is below the drinking water criterion.

It is assumed that PCP and PAH concentrations in samples from 2102, 2103, 2104 and 2105 would also exceed their respective drinking water criteria. These wells are located within the capture zone of the OU3 extraction system.

Results from the analysis of samples collected from wells screened at the base of the surficial aquifer at OU3 are summarized in Table 19. PCP and PAH concentrations are below the drinking water criteria in samples from these wells with the exception of well 2238 where PCP was detected above the drinking water criterion. Well 2238 has a 1-foot screen that is located about 1-foot above the DNAPL impacted area and is located within the hydraulic capture zone of the extraction system.

Table 20 summarizes the results from the analysis of samples collected from wells screened in the lower aquifer at OU3 (wells 2335, 2336 and 2339). PCP and PAH concentrations are below the drinking water criterion.

Table 21 summarizes the BaP Equivalency (ND = ½ DL), Naphthalene and PCP concentrations in each of the OU3 wells over time. The results from 2009 are consistent with historical results, as shown on the plots of concentration versus time in Appendix D.

The 2009 monitoring program included additional monitoring of benzene, toluene, ethyl benzene and xylene, DRO, and PCDD/PCDF at monitoring wells 2128, 2228, 2233, 2236 and 2238, and extended list PAHs at monitoring well 2128. The analytical results are summarized in Table 22. The concentrations are below the respective intervention limits specified for the additional parameters by EPA in the August 15, 2005 letter with the exception of DRO, PCP, and anthracene in well 2238 and PCP in one of three samples from W2128. These wells are located within the capture zone of the OU3 extraction system.

### **3.2.4 OU1 and OU3 Extraction Wells**

The Monitoring Plan for 2009 included collection of a groundwater sample from extraction well 408. This well was not operational during 2009 so no sample was collected from the extraction wells.

Each extraction well will be sampled in 2010. Table 23 summarizes the PCP concentrations in extraction well samples over time with 2009 blank.

### 3.2.5 Groundwater Treatment System

The results from analysis of samples collected monthly at the groundwater treatment system are summarized in Tables 24 and 25. Influent PCP concentrations ranged from 1,200 to 2,300 µg/L with an average concentration of approximately 1,670 µg/L. The GAC performance monitoring data (PCP concentration) is summarized in Table 24.

Monitoring of the effluent indicates that all parameters are below the respective effluent limitations specified for the treatment system (*see* Table 25). The arsenic, chromium and copper concentrations are well below the effluent limitations and are within the range of concentrations reported for domestic wells in Cass County<sup>5</sup>. Benzene, ethyl benzene and xylene were not detected in any effluent sample. Toluene was detected (J-qualified) in two of twelve samples.

Flow rates and effluent pH were measured continuously at the treatment system effluent throughout the year. The monthly volume and effluent pH data are presented in Tables 26 and 27, respectively.

The flow rate and concentration data were used to estimate the mass of PCP and PAHs removed by the treatment system. The annual mass removed was relatively high for the first few years of operation, then declined and has remained fairly steady since about 1991. The estimated mass removed in 2009 is shown below:

Water Volume		PCP		PAHs <sup>(1)</sup>	
2009 [10 <sup>6</sup> gallons]	Cumulative Total [10 <sup>6</sup> gallons]	2009 [kg]	Cumulative Total [kg]	2009 [kg]	Cumulative Total [kg]
60.8	1,269	384	12,781	644	6,073

<sup>(1)</sup> assumed same PAH concentration as 2007.

<sup>5</sup> MPCA Baseline Data Set (1992 – 1996), Ground Water Monitoring and Assessment Program (GWMAP), <http://www.pca.state.mn.us/water/groundwater/gwmap/gwbaseline.html>

### **3.2.6 Fish Hatchery Wells**

The results from the analysis of the samples collected from the Fish Hatchery's south production well (Fish 4) are summarized in Table 28. No significant concentrations of PCP or PAH compounds were reported in the samples of Fish 4 discharge. Pentachlorophenol was not detected in any of the samples collected from Fish 4. Certain carcinogenic PAH compounds were reported at trace concentrations in sample Fish 4-2, but the compounds were not reported in the field duplicate sample collected at the same time. A trace level of naphthalene was reported in Fish 4-3. All trace amounts detected were j-qualified and orders of magnitude below drinking water criteria and surface water standards. These analytical results are consistent with previous data (Table 29).

### **3.2.7 MDNR Well #11016**

The results from the analysis of the sample collected from the MDNR well #11016 are summarized in Table 30. PCP was not detected in this sample, but a number of PAH compounds were detected at concentrations that are orders of magnitude below the drinking water criterion. Since this well was removed by others in 2009, it will be removed from future monitoring plans.

## **3.3 Vault Inspection**

The containment vault was inspected on May 11 and November 3, 2009. Copies of the completed vault inspection forms are in Appendix C. The inspections did not identify any deficiencies.

### **3.3.1 Run-On and Runoff Control Systems**

The run-on and runoff control systems were clear of debris during inspections. The systems contained adequate vegetation and no standing water or erosion was present. No deficiencies of the systems were noted.

### **3.3.2 Leachate Collection and Leak Detection Systems**

Leachate was present in the leachate collection manhole (LCM) and leak detection manhole (LDM) in both May and November. The leachate elevations were recorded during the vault inspections and are summarized in Table 31. The LCM and LDM are covered and no damage to either manhole was noted.

### **3.3.3 Benchmarks and Wells**

The monitoring wells, benchmarks and protective posts were not damaged and did not show signs of deterioration. Benchmarks were surveyed on May 15, 2009. The elevations are listed in Table 32

and are consistent with previous measurements. No settling of the vault contents is indicated by the elevation data.

The monitoring wells and protective posts were not damaged. The metal caps are in place and locked. No deficiencies were identified.

### **3.3.4 Security System**

The chain link fence and vehicle gate were not damaged, and no deficiencies in the security system were identified. The gate is locked when the vault is unattended.

### **3.3.5 Corrective Actions**

The inspections did not identify any deficiencies. No corrective actions were necessary in this time period.

## **3.4 Vault Dewatering Activities**

After vault closure in 1987, water levels indicated that the lower 14 feet of soil in the vault was water-saturated. This soil is continuing to release pore water and this water continues to accumulate at a slow rate in the collection system. Leachate elevations recorded over time are plotted on Figure 13.

Due to an oversight, leachate was not removed from the vault during 2009. To improve leachate removal, the accumulated leachate will be removed from the vault in the spring and fall of 2010. The flowmeter will be operational prior to leachate removal.

## 4.0 Summary

---

Monitoring at the Site in 2009 was completed in accordance with the requirements of the Orders and monitoring plans listed in Section 2.0. Any exceptions are described in this report. The monitoring results are summarized as follows:

- PCP and PAHs are the indicator chemicals from former operations at the Site.
- PCP and PAH concentrations in samples collected from wells screened in the upper aquifer at OU1 and located near the channel (i.e., 212, 215, and 220) continue to show significantly lower concentrations compared to pre-remedy conditions. PCP was not detected in samples collected from W213 and W215. PCP concentrations exceeded drinking water criterion in four of four samples from W212 and 3 of 4 samples from W220. PAH and PCP concentrations within the mapped contaminant plume continue to show varying concentrations.
- Intervention limits established for benzene, toluene, ethyl benzene, xylene, and benzo(a)pyrene were not exceeded at any of the monitoring wells that were assigned intervention limits. The intervention limit for PCP was exceeded in samples from wells 212, and 220 at OU1. Two of the four samples collected at 220 did not exceed the intervention limit for PCP. The intervention limit for anthracene was exceeded in samples from wells 213 and 220.
- Extended-list PAHs were not detected in samples from W220 and W2128. One extended-list PAH (7H-Dibenzo(c,g)carbazole) was detected in a sample from W215, but was not detected in the duplicate sample collected at the same time.
- PCP and PAH concentrations in all samples from the lower aquifer are below drinking water criteria. PCP was not detected in any sample from the lower aquifer with the exception of one of four samples from W2336. Only trace concentrations of certain PAHs were detected in samples from some of the wells. Most reported concentrations were estimated (J-qualified) because the concentrations were below the method quantitation limit but above the method detection limit or were orders of magnitude below drinking water criteria.
- PCP was not detected in the surface water samples collected from the channel connecting Cass Lake and Pike Bay.

- PCP was not detected in samples from any vault monitoring well sample during 2009. Only trace concentrations of certain PAH compounds were detected in the samples from the vault monitoring wells. The concentrations are orders of magnitude below drinking water criteria, are consistent with upgradient water quality data, and do not show a trend of increasing concentration.
- No significant concentrations of PCP or PAH compounds were reported in the samples of Fish 4. Pentachlorophenol was not detected in any of the samples. Certain carcinogenic PAH compounds were reported at trace concentrations in sample Fish 4-2, but the compounds were not reported in the field duplicate sample collected at the same time.
- The groundwater treatment system effectively removed PCP and PAH compounds from the extracted groundwater at the Site. Effluent monitoring data demonstrate no exceedances of effluent limitation. Arsenic, copper and chromium concentrations were detected at concentrations typical of shallow groundwater. Benzene, ethyl benzene and xylene were not detected in the effluent samples. Toluene was detected (J-coded) in two of twelve samples. DRO was detected in three of twelve samples at a concentration very near the method detection limit and well below the effluent limit.
- The carbon treatment system has removed approximately 12,781 kg of PCP and 6,073 kg of PAH compounds from approximately 1.27 billion gallons of water over its operational lifetime.
- A total of approximately 167.8 gallons of product have been recovered over a 15-year period, including 2.0 gallons in 2009.
- Concentrations of PCP exceeded intervention limits for two of the down-gradient compliance wells for OU1 as defined by the US EPA in 2005 (W212 & W220). Well 212 is within the mapped capture zone of the extraction wells. The extraction wells continue to remove water with relatively high concentrations of PCP and PAH compounds. Concentrations initially dropped off after the first several years of system operation (circa. 1987-1990) for the OU1 and OU3 extraction systems; however, since then, the concentrations have remained stable at around 1,000 to 9,000 µg/L for many of the wells, indicating that a significant amount of contaminant source material remains. Since the extraction system began operating, the PCP concentrations in down-gradient monitoring wells (i.e., W212, W213, W215 and W220) have decreased by about three orders of magnitude. PCP was not detected in samples from well

215 in 2008 and 2009. The PCP concentration in samples from wells W212 and W220 have been variable (i.e., small increases and decreases) over the last few years indicating that these wells may be in an area of stagnated groundwater flow. A groundwater flow model is needed to provide a more thorough evaluation of the hydraulic capture zone at OU1 and OU3.

## 5.0 Recommendations

---

1. Continue operating the groundwater extraction systems and groundwater treatment system in accordance with the Order, the MDNR water appropriation permit, the revised effluent monitoring plan, and the recommended 2010 monitoring plan (Section 6).
2. Continue monitoring water levels and water quality in accordance with the recommended 2010 monitoring plan (Section 6).
3. Maintain the extraction and groundwater treatment system components (i.e., pumps, valves, piping, flow meters) as necessary according to the *Operation and Maintenance Plan, St. Regis Paper Company Site, Cass Lake, Minnesota*, dated March, 1995, or the updated plan currently under development. Well 408 will be returned to service in 2010 by replacing the forcemain between the well and the water treatment building. To attempt to expand the capture zone at OU3 further east, the extraction rate at well 2402 will be increased.
4. Continue monitoring and recovering product as described in the Free Product Recovery/Reuse Plan, April 1993.
5. Pump water from the vault during the spring and again in the fall of 2010. Record water levels during each vault inspection.
6. DNR Well #11016 is not longer available. A new piezometer should be installed in the general area. International Paper will contact BNSF to evaluate whether they would allow construction of a piezometer on their property and a specific location. If BNSF allows the piezometer, International paper will submit a work plan to EPA and support agencies describing the installation of the piezometer.
7. A revised groundwater flow model should continue to be developed for the site to aid in the delineation of the capture zone and evaluate modifications to the extraction system. The current capture zone delineation method requires multiple control points to attempt to incorporate site specific information. A groundwater flow model would incorporate site specific information to better delineate the capture zones at OU1 and OU3. International Paper developed a draft groundwater flow QAPP in 2007 and has responded to EPA comments. Upon receiving approval from EPA, International Paper will complete the groundwater flow QAPP and resume developing the revised groundwater flow model. Based on the capture zone delineation obtained from the

groundwater flow model additional monitoring wells may be needed south of W407 and/or along the southern boundary of the capture zone at OU3.

8. EPA requested a groundwater-surface water interaction investigation developed for the area near the southern end of the channel to the city's public beach. However, extensive surface water and sediment investigation has already been conducted in this area by EPA in 2001 and International Paper in 2004. A comprehensive baseline risk assessment has also been completed and approved by EPA. The baseline risk assessment did not identify this area as a concern. Therefore, a meeting should be held to discuss the need for this groundwater-surface water interaction investigation.

## 6.0 Monitoring Plan for 2010

---

This section presents the 2010 monitoring plan for monitoring activities at the St. Regis Paper Company Site. The monitoring plan will be reviewed and may be modified, as appropriate, in future annual reports.

### 6.1 Monitoring Activities

#### 6.1.1 Capture Zone Confirmation

The OU1 and OU3 groundwater extraction systems will continue to be operated as in previous years. The extraction system maintenance program, monitoring of extraction well performance and confirmation of the capture zone will be continued as detailed in the October 28, 2005 letter to EPA (summarized below).

##### 6.1.1.1 Extraction System Maintenance Plan

International Paper will update the maintenance plan from the March 1995, Operating and Maintenance Plan to identify procedures to maintain the effectiveness of the extraction systems including well screen maintenance, pump maintenance or replacement, and pipe cleaning. The updated Extraction System Maintenance Plan will identify an optimal extraction rate for each extraction well or group of wells and allowable deviations from the optimal extraction rates (See letter to EPA date October 28, 2005).

Extraction well performance will be evaluated in the quarterly progress reports. This will include maintenance activities conducted during the quarter; monthly average extraction rates, water levels, and pressure gage readings for the appropriate monitoring points; and maintenance activities anticipated for the next quarter. Overall extraction well performance will continue to be summarized in each annual report.

EPA also requested that monthly rainfall data be reported. As was done in 2009, rainfall data will be downloaded from <http://climate.umn.edu/HIDradius/radius.asp>; Station: 211374 Cass Lake and included in the appropriate quarterly reports and in the annual report.

##### 6.1.1.2 Hydraulic Capture Zone Monitoring

Water levels will be measured in the Site-wide network of piezometers and monitoring wells in the spring and fall. This information will be summarized in the 2010 annual report. Groundwater elevation data at the monitoring points will be reviewed based on plots of previous trends and

comparisons to nearby data points. Anomalous data will not be used in the capture zone analysis and the rationale for any exclusions will be provided on the data summary table in the annual report. Water levels will be used to develop maps of piezometric surface contours and estimated hydraulic capture zones, which along with the MODFLOW model (page 11); will be the basis for maps of piezometric surface contours and hydraulic capture zones included in the annual report.

The GW Contour software package (Waterloo Hydrogeologic, 2005) will be used to generate groundwater elevation contour maps for the surficial aquifer and lower aquifer using data from each set of water level measurements. GW Contour is a data interpolation and visualization tool that is used to create two-dimensional groundwater data models. A variety of interpolation schemes is available in GW Contour. The contour maps will be created using a natural neighbor algorithm. GW Contour will also be used to generate flow lines based on contoured head data.

The data input set for the GW Contour software package will be based on the 2010 water level measurements and on information from USGS topographic maps. The Site is part of a large sand plain with numerous lakes and wetlands in close contact with the surficial aquifer. Several of the lakes, including Cass Lake and Wolf Lake to the northwest of the Site, are connected to the Mississippi River, which drains the region. Some of the lakes and wetlands to the west are at elevations above the Mississippi River and connected lakes, and these higher water bodies provide some upgradient control on groundwater flow in the vicinity of the Site. Additional upgradient control on groundwater flow is provided by the recharge area northwest of the City of Cass Lake. Control points used in the GW Contour input files will be based on the regional groundwater flow model and gradients calculated between wells and between wells and lake elevations.

The measured water levels in the extraction wells are not considered to be valid with respect to the contouring of groundwater levels. However, it would also be inappropriate to simply ignore these wells. An algorithm was developed similar to the one described by Subterranean Research (July 2005) in their work on the Site for EPA (see Appendix E, Hydraulic Capture Zone Report, St. Regis Paper Company Site, Revised March 2008). This algorithm, or amendments to the algorithm, will be used to estimate the water elevation at the screen of each extraction well.

Hydraulic capture zones for both the OU1 and OU3 extraction systems will be delineated by starting stream traces nearby and downstream of the extraction wells and using the backward particle tracking feature in GW Contour to define the traveled path. Flow lines located outside the hydraulic capture zones will be generated using a combination of forward and backward particle tracking.

### **6.1.2 Containment Vault Postclosure Inspection**

The containment vault will be inspected during the second and third quarters of 2010 to evaluate the integrity of the vault components. Visual inspections will be documented on the observation reports. The benchmark elevations will be surveyed during the annual groundwater monitoring event. Leachate will be pumped from the vault to the groundwater treatment system, as needed.

### **6.1.3 Water Quality Monitoring Plan**

Water quality monitoring stations at the Site include monitoring wells, extraction wells, surface water stations, and sample taps for the groundwater treatment system. Water quality sampling stations, with the exception of the sample taps, have been grouped into the following two categories: (1) performance-monitoring stations; and (2) indicator-monitoring stations. Performance-monitoring stations are sampled during even numbered years and the analytical data are used to verify long-term water quality trends and the performance of the remedial actions at the Site. Indicator-monitoring stations are sampled each year and the analytical data are used to evaluate potential changes in water quality trends. The stations and analytical parameters included in the 2010 monitoring plan are summarized in Tables 33 and 34, including quarterly sampling from selected monitoring wells.

### **6.1.4 Effluent and GAC Performance Monitoring Plan**

Groundwater from the OU1 and OU3 extraction systems is treated prior to discharge to the channel connecting Cass Lake and Pike Bay. Vault leachate from OU2 is also pumped to the treatment system (Spring and Fall). The treatment system consists of three 20,000 pound granular activated carbon adsorbers connected in series. Sample taps are installed on the influent and effluent of each adsorber. The stations and analytical parameters included in the 2010 effluent and GAC performance monitoring plan are summarized in Table 35.

### **6.1.5 Fish Tissue Samples**

Decisions regarding continued fish tissue monitoring will be based on the conclusions of the Human Health and Ecological Risk Assessment. Should EPA require a fish tissue monitoring program after approval of the Human Health and Ecological Risk Assessment, either this monitoring plan will be supplemented to include the fish tissue monitoring program, or the required fish tissue monitoring will be conducted under another approved program.

## **6.2 Product Monitoring and Collection**

The stations and frequencies for product monitoring and collection for 2009 are summarized in Table 34. Accumulated product will be recovered after the annual groundwater quality monitoring event.

## **6.3 Reporting**

### **6.3.1 Quarterly Progress Report**

International Paper Company will continue to submit quarterly progress reports to the EPA that summarize the previous quarter's activities and activities anticipated for the following quarter.

Extraction well performance will continue to be evaluated in the quarterly progress reports including maintenance activities conducted during the quarter; monthly average extraction rates, and water levels collected during the quarter, monthly rainfall data; and will describe maintenance activities anticipated for the next quarter.

EPA also requested that monthly rainfall data be reported. Rainfall data will be downloaded from <http://climate.umn.edu/HIDradius/radius.asp>; Station: 211370 Cass Lake and included in the appropriate quarterly reports and in the annual report.

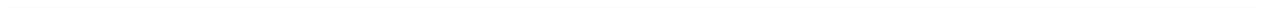
### **6.3.2 Annual Report**

International Paper Company will submit the 2010 Annual Report to the EPA on or before April 1, 2011. The annual report will summarize the remedial action operations and the monitoring activities conducted at the Site for 2010, and make recommendations for the 2011 monitoring plan. The data summary tables will include the intervention limits and effluent limitations specified in the August 15, 2005 EPA letter.

Water levels from the network of piezometers and monitoring wells will be used to develop maps of piezometric surfaces and hydraulic capture zones. The groundwater elevation at each well will be plotted on each map so the reviewer can compare the contour lines to the measured elevations.

Documents and manifests regarding the handling of spent carbon from the groundwater treatment system will be appended to the annual report.

## Tables



**Table 1**  
**2009 Annual Monitoring Event Summary**  
**Groundwater and Surface Water Monitoring**  
**St. Regis Paper Company and City Dump Pit Sites**

Operable Unit	Screened Interval	Station	Category	PCP		PAHs			BETX	DRO	Dioxins	Water Level (1)	
				8270	8151	8270	8270-SIM	8270-SIM (Calif.)	8260	8015M	8290		
OU1- Treating Facility Area	Top of Surficial	W104	P									X	
		W105R	P		2		2					X	
		W112	P									X	
		W114	I		X		X					X	
		W115	I		X		X					X	
		W118	PMC										X
	Bottom of Surficial	W205	P										X
		W209	P										X
		W212 <sup>(2)</sup>	I										2
		W213 <sup>(2)</sup>	I										X
		W215	I		X		X	X					X
		W217	P										X
		W218	P										X
		W219	P										X
		W220 <sup>(2)</sup>	I					X					X
		W221	P										X
		W222											X
		W223											X
	Lower Aquifer	MW3	P										X
		W302	P										X
		W306	I		X		X						X
	Pump-out Wells	W401	P										X
		W402	P										X
		W403	P										X
		W404											X
		W405	P										X
		W406	P										X
		W407	P										X
		W408	I										X
		W409	P										X
		W410	P										X
		W411	P										X
	Observation Wells	W509											X
W510												X	
W511												X	
W512												X	
W513												X	
W514												X	
Special Observation Wells	SO401	PMC										X	
	SO402											X	
	SO403											X	
	SO405											X	
Channel	CL-N	I		X									
	CL-S	I		X									
	North Staff											X	
	RR Staff											X	
	South Staff											X	
Off-site	Top of Surficial	DNR #11016		X		X						X	

**Table 1**  
**2009 Annual Monitoring Event Summary**  
**Groundwater and Surface Water Monitoring**  
**St. Regis Paper Company and City Dump Pit Sites**

Operable Unit	Screened Interval	Station	Category	PCP		PAHs			BETX	DRO	Dioxins	Water Level (1)
				8270	8151	8270	8270-SIM	8270-SIM (Calif.)	8260	8015M	8290	
OU2 - Containment Vault Area	Upper Aquifer	W124	I		X		X					X
		W125	I		X		X					X
		W126	I		X		X					X
		W127	P		X		X					X
		W128	I		X		X					X
		W129	I		X		X					X
		W130	I		X		X					X
	Lower Aquifer	W324			X		X					X
		W329			X		X					X
W330				X		X					X	
OU3 - City Dump Pit Area	Top of Surficial	W2102	PMC									X
		W2103	PMC									X
		W2104	PMC									X
		W2105	PMC									X
		W2106	PMC	X		X					X	X
		W2127	I		X		X					X
		W2128 <sup>(2)</sup>	P					X				X
		W2129	I		X		X					X
		W2134	P		X		X					X
		W2135	I		X		X					X
	Bottom of Surficial	W2228	I		X		X		X	X	X	X
		W2233 <sup>(2)</sup>										X
		W2234	I		X		X					X
		W2236 <sup>(2)</sup>										X
		W2237R	I		X		X					X
		W2238	I		X		X		X	X	X	X
	Lower Aquifer	W2301	P									X
		W2325	P									X
		W2326	P									X
		W2329	P									X
		W2333	P									X
		W2335	I		X		X					X
		W2336 <sup>(2)</sup>										X
	Pump-out Wells	W2401	P									X
		W2402	P									X
		W2403	P									X
	Scavenger Wells	S2401	PMC									X
		S2402	PMC									X
		S2403										X
Observation Wells	W2501										X	
	W2502										X	
	W2504										X	
	W2505										X	
Additional Wells	HatcheryWells	Fish 1	P									
		Fish 2	P									
		Fish 3	P									
		Fish 4	I		X		X					

**Table 1**  
**2009 Annual Monitoring Event Summary**  
**Groundwater and Surface Water Monitoring**  
**St. Regis Paper Company and City Dump Pit Sites**

Operable Unit	Screened Interval	Station	Category	PCP		PAHs			BETX	DRO	Dioxins	Water Level (1)
				8270	8151	8270	8270-SIM	8270-SIM (Calif.)	8260	8015M	8290	

**Notes:**

This table identifies the number of samples at each station over the year.

- (1) Water levels will be measured in during the spring and fall sampling event.
- (2) See Quarterly Sample Program (Table 2)

**Category**

- I - Indicator Monitoring Station (Annual Sampling)
- P - Performance Monitoring Station (Biennial Sampling)
- PMC - Product Monitoring and Collection Station

**Table 2**  
**2009 Quarterly Monitoring Event Summary**  
**Groundwater and Surface Water Monitoring**  
**St. Regis Paper Company and City Dump Pit Sites**

Operable Unit	Screened Interval	Station	Category	PCP		PAHs			BETX	DRO	Dioxins	Water Level
				8270	8151	8270	8270-SIM	8270-SIM (Calif.)	8260	8015M	8290	
OU1- Treating Facility Area	Bottom of Surficial	W212	I		X		X		X	X	X	X
		W213	I		X		X		X	X	X	X
		W220	I		X		X		X	X	X	X
OU3 - City Dump Pit Site	Top of Surficial	W2128	I		X		X		X	X	X	X
	Bottom of Surficial	W2233	I		X		X		X	X	X	X
		W2236	I		X		X		X	X	X	X
	Lower Aquifer	W2336	I		X		X		X	X	X	X

**Notes:**

This table identifies the number of samples at each station over the year.

<sup>(1)</sup> Number of QC samples as follows:

- PCP - 5%
- PAH - 5%
- BETX - 10%
- DRO - 10%
- Dioxins - 10%

**Category**

- I - Indicator Monitoring Station (Annual Sampling)
- P - Performance Monitoring Station (Biennial Sampling)
- PMC - Product Monitoring and Collection Station

**Table 3**  
**2009 Monthly Monitoring Event Summary**  
**Effluent and GAC Performance Monitoring Program**  
**St. Regis Paper Company and City Dump Pit Sites**

Month	PCP				PAHs	Metals <sup>(A)</sup>	BETX	DRO	Dioxins/furans
	8151M				8270-SIM	6020; 7195/6010B	8620	8015B	8290
	Influent	Primary	Secondary	Effluent	Effluent	Effluent	Effluent	Effluent	
January	X	X	X	X	X	X	X	X	X
February	X	X	X	X	X	X	X	X	
March	X	X	X	X	X	X	X	X	
April	X	X	X	X	X	X	X	X	X
May	X	X	X	X	X	X	X	X	
June	X	X	X	X	X	X	X	X	
July	X	X	X	X	X	X	X	X	X
August	X	X	X	X	X	X	X	X	
September	X	X	X	X	X	X	X	X	
October	X	X	X	X	X	X	X	X	X
November	X	X	X	X	X	X	X	X	
December	X	X	X	X	X	X	X	X	

**Notes:**

<sup>(A)</sup> Arsenic, Copper, & Chromium. If chromium exceeds 11 µg/L in any effluent sample, additional effluent samples will be collected and analyzed for hexavalent and trivalent chromium.

<sup>(B)</sup> One trip blank per event when BETX samples are collected.

Flow rate and pH are measured continuously.

Numbers indicate the number of samples during each event.

**Table 4 - Comprehensive List of Monitoring Wells - 2009 Update  
St. Regis Paper Company Site**

Well Identification	Date Installed	Elevations [ft. MSL, NAVD 88]					Screen Dimensions		Construction Materials		Location		Year Abandoned	Reason for Abandonment
		Riser Pipe	Protective Casing	Ground Surface	Top of Screen	Bottom of Screen	Length	Diameter	Casing	Screen	Northing	Easting		
<b>OU1- Treating Facility Area</b>														
<b>Top of Surficial Aquifer</b>														
101	01/26/82	1319.66		1318.1	1305.1	1295.1	10	4	Galvanized	Galvanized			1987	No longer required by monitoring program
102	01/27/82	1320.32		1318.6	1301.1	1291.1	10	4	Galvanized	Galvanized			1987	No longer required by monitoring program
103	01/27/82	1317.79		1315.4	1190.4	1293.4	10	4	Galvanized	Galvanized			1987	No longer required by monitoring program
104	01/27/82	1319.14	1319.64	1316.76	1306.3	1296.3	10	4	Galvanized	Galvanized	5248257.17	379466.64		
105	07/12/84	1306.67	1307.16	1305.18	1302.2	1292.2	10	4	Galvanized	Galvanized	5248324.80	379826.43	2007	Well collapsed and was replaced by W105R.
105R	02/15/07	1306.86	1307.51	1305.3	1290.3	1280.3	10	2	Black Steel	Stainless Steel	5248326.31	379825.72		
106	01/27/82	1306.46		1305.1	1296.6	1286.6	10	4	Galvanized	Galvanized			1987	No longer required by monitoring program
107	01/27/82	1305.83		1304.7	1298.7	1288.7	10	4	Galvanized	Galvanized			1987	No longer required by monitoring program
108	01/26/82	1306.12		1304.8	1299.8	1289.8	10	4	Galvanized	Galvanized			1987	No longer required by monitoring program
109	01/26/82	1308.50		1307.2	1299.7	1289.7	10	4	Galvanized	Galvanized			1987	No longer required by monitoring program
110	01/26/82	1319.55		1318.2	1306.2	1296.2	10	4	Galvanized	Galvanized			1987	No longer required by monitoring program
111							10	4	Galvanized	Galvanized			1987	No longer required by monitoring program
112	07/15/83	1305.77	1306.41	1304.53	1301.5	1291.5	10	4	Galvanized	Galvanized	5248206.97	379977.50		
113	07/14/83	1304.72		1302.5	1299.5	1289.5	10	4	Galvanized	Galvanized	5248094.00	380010.83	2006	No longer required by monitoring program
114	07/14/83	1307.67	1308.18	1305.99	1292.0	1292.0	10	4	Galvanized	Galvanized	5248002.09	379933.88		
115	07/12/84	1307.27	1307.71	1305.46	1302.5	1292.5	10	4	Galvanized	Galvanized	5248253.90	380101.53		
116	07/12/84	1306.27		1304.9	1300.4	1290.4	10	4	Galvanized	Galvanized			1987	No longer required by monitoring program
118	12/29/84	1320.02	1321.88	1319.51	1308.5	1298.5	10	2	Stainless Steel	Stainless Steel	5248256.62	379323.75		
<b>Bottom of Surficial Aquifer</b>														
202	07/11/84	1321.00		1319.1	1291.1	1286.0	5	2	Stainless Steel	Stainless Steel			1987	No longer required by monitoring program
205	07/10/84	1307.95	1307.93	1305.33	1258.3	1253.3	5	2	Stainless Steel	Stainless Steel	5248325.52	379829.73		
207	07/17/83	1306.82		1304.7	1259.2	1208.8	5	2	Stainless Steel	Stainless Steel			1987	No longer required by monitoring program
209	05/10/85	1311.52	1311.57	1309.25	1273.8	1268.8	5	3	Stainless Steel	Stainless Steel	5248117.27	379582.79		
212	11/04/83	1305.94	1306.06	1303.73	1251.2	1246.2	5	2	Stainless Steel	Stainless Steel	5248204.11	379976.44		
213	11/03/83	1307.45	1307.77	1304.51	1252.0	1242.0	5	2	Stainless Steel	Stainless Steel	5248095.86	380009.34		
214	11/01/83	1306.03		1303.5	1251.0	1246.0	5	2	Stainless Steel	Stainless Steel			1987	No longer required by monitoring program
215	07/12/84	1308.84	1308.86	1306.64	1255.6	1249.6	5	2	Stainless Steel	Stainless Steel	5248256.71	380102.47		
217	11/30/84	1307.56	1307.63	1305.50	1256.5	1251.5	5	2	Stainless Steel	Stainless Steel	5248319.77	380874.95		
218	12/29/84	1320.96	1321.98	1319.48	1288.5	1283.5	5	2	Stainless Steel	Stainless Steel	5248253.46	379323.77		
219	07/09/85	1308.45	1308.59	1306.75	1247.3	1242.3	5	2	Stainless Steel	Stainless Steel	5248296.01	380286.53		
220	02/23/94	1305.79	1305.89	1303.71	1245.7	1235.7	10	2	Stainless Steel	Stainless Steel	5248005.76	380087.45		
221	01/05/94	1310.55	1310.66	1308.75	1284.3	1264.3	10	2	Stainless Steel	Stainless Steel	5248463.65	380804.63		
222	02/16/07	1305.47	1305.60	1303.84	1257.8	1252.8	5	2	Black Steel	Stainless Steel	5248415.99	379738.06		
222T	05/15/06	1306.10	---	1303.24	1286.9	1283.9	3	2	Stainless Steel	Black Steel	5248416.70	379741.93	2007	Temporary drive point. Replaced by W222
223	05/01/06	1333.26	1333.55	1330.64	1271.6	1266.6	5	2	Stainless Steel	Black Steel	5247750.78	379578.74		
<b>Lower Aquifer</b>														
MW3	12/22/36	1324.84	1324.95	1323.16	1223.2	1213.2	15	12	Steel	Bronze	5248325.87	378910.46		2006 Survey coordinates not correct
302	02/17/82	1321.98	1322.36	1320.81	1217.3	1207.3	10	4	Galvanized	Galvanized	5248323.17	379139.12		
306	02/18/82	1308.47	1308.95	1307.93	1208.9	1198.9	10	4	Galvanized	Galvanized	5248232.74	379807.03		
<b>Pump-out Wells</b>														
401	11/05/85	1321.51	1321.54	1319.68	1294.7	1284.7	10	6	Black Steel	Stainless Steel	5248244.31	379310.40		
402	11/06/85	1309.33	1309.34	1307.61	1280.6	1265.6	15	6	Black Steel	Stainless Steel	5248143.67	379676.46		
403	11/14/85	1310.82	1310.83	1308.16	1273.2	1258.2	15	6	Black Steel	Stainless Steel	5248235.06	379806.88		
404	11/18/85	1309.13	1309.20	1307.14	1292.1	1277.1	15	6	Black Steel	Stainless Steel	5248205.74	379800.07		
405	10/30/85	1309.85	1309.87	1307.32	1272.3	1257.3	15	6	Black Steel	Stainless Steel	5248144.44	379787.41		
406	11/20/85	1308.64	1308.71	1307.20	1292.2	1277.2	15	6	Black Steel	Stainless Steel	5248084.43	379776.57		
407	11/21/85	1307.64	1307.71	1306.82	1274.8	1259.8	15	6	Black Steel	Stainless Steel	5248058.84	379770.13		
408	11/12/85	1306.16	1306.22	1304.43	1264.4	1244.4	20	6	Black Steel	Stainless Steel	5248102.94	380007.10		
409	11/14/85	1308.33	1308.31	1306.14	1271.1	1256.1	15	6	Black Steel	Stainless Steel	5248174.57	379795.23		
410	11/19/85	1310.84	1310.88	1306.89	1271.9	1256.9	15	6	Black Steel	Stainless Steel	5248114.73	379783.65		
411	08/04/87	1311.45	1311.89	1310.14	1273.1	1258.1	15	6	Black Steel	Stainless Steel	5248264.67	379764.41		

Vertical Datum for Existing Wells: NAVD 88  
Vertical datum for abandoned wells is approximately 1.9 feet lower than NAVD 88  
2311005Table 4 (2009 Update)

**Table 4 - Comprehensive List of Monitoring Wells - 2009 Update  
St. Regis Paper Company Site**

Well Identification	Date Installed	Elevations [ft. MSL, NAVD 88]					Screen Dimensions		Construction Materials		Location		Year Abandoned	Reason for Abandonment
		Riser Pipe	Protective Casing	Ground Surface	Top of Screen	Bottom of Screen	Length	Diameter	Casing	Screen	Northing	Easting		
<b>Observation Wells</b>														
501	11/05/86	1308.59	1308.71	1305.2	1302.4	1281.9	20.5	2	Stainless Steel	Stainless Steel	5248220.33	379803.15	2006	Replaced by piezometer 509
502	11/07/86	1307.27	1307.42	1304.1	1301.1	1280.6	20.5	2	Stainless Steel	Stainless Steel	5248190.04	379797.46	2006	Replaced by piezometer 510
503	11/07/86	1308.63	1308.66	1305.1	1302.1	1281.6	20.5	2	Stainless Steel	Stainless Steel	5248159.52	379791.14	2006	Replaced by piezometer 511
504	11/07/86	1309.49	1309.58	1306.1	1302.0	1281.5	20.5	2	Stainless Steel	Stainless Steel	5248129.14	379784.61	2006	Replaced by piezometer 512
505	11/05/86	1308.53	1308.58	1305.2	1302.9	1282.4	20.5	2	Stainless Steel	Stainless Steel	5248099.65	379779.68	2006	Replaced by piezometer 513
506	11/07/86	1307.78	1307.86	1304.3	1301.8	1281.3	20.5	2	Stainless Steel	Stainless Steel	5248071.47	379773.28	2006	Replaced by piezometer 514
507	11/07/86	1306.88	1306.94	1303.2	1300.7	1280.2	20.5	2	Stainless Steel	Stainless Steel	5248156.34	379805.97	2006	Replaced by piezometer 511
508	11/07/86	1307.08	1307.22	1303.7	1300.8	1280.2	20.5	2	Stainless Steel	Stainless Steel	5248126.57	379799.68	2006	Replaced by piezometer 512
509	05/08/06	1310.09	1310.31	1307.44	1267.4	1262.4	5	2	Stainless Steel	Black Steel	5248228.77	379805.72		
510	05/08/06	1308.52	1309.15	1306.11	1267.1	1262.1	5	2	Stainless Steel	Black Steel	5248192.63	379797.85		
511	05/07/06	1309.73	1310.05	1306.49	1266.5	1261.5	5	2	Stainless Steel	Black Steel	5248162.30	379791.90		
512	05/07/06	1309.55	1309.83	1306.03	1261.0	1256.0	5	2	Stainless Steel	Black Steel	5248121.43	379784.59		
513	05/06/06	1308.41	1308.62	1305.72	1266.7	1261.7	5	2	Stainless Steel	Black Steel	5248094.67	379780.57		
514	05/06/06	1309.36	1309.72	1306.39	1265.4	1260.4	5	2	Stainless Steel	Black Steel	5248065.72	379773.26		
<b>Special Observation Wells</b>														
S401	09/18/87	1320.74	1320.92	1319.72	1306.7	1296.7	10	2	Black Steel	Black Steel	5248244.47	379310.10		
S402	09/17/87	1308.53	1309.45	1307.62	1298.6	1288.6	10	2	Black Steel	Black Steel	5248144.03	379676.57		
S403	09/18/87	1309.27	1309.43	1308.32	1305.3	1295.3	10	2	Black Steel	Black Steel	5248235.40	379807.05		
S405	09/18/87	1308.15	1308.33	1307.21	1304.2	1297.2	10	2	Black Steel	Black Steel	5248144.60	379787.75		
<b>OU2 - Vault Area</b>														
<b>Vault Monitoring Wells</b>														
111	01/27/82	1329.41		1327.9	1305.9	1295.9	10	4	Galvanized	Galvanized			1987	Replaced by permanent monitoring wells at the vault
121	04/02/86	1324.13		1321.6	1307.0	1396.7	10	2	Stainless Steel	Stainless Steel			1987	Replaced by permanent monitoring wells at the vault
122	04/01/86	1331.90		1329.1	1307.4	1287.1	10	2	Stainless Steel	Stainless Steel			1987	Replaced by permanent monitoring wells at the vault
123	04/02/86	1335.67		1332.6	1308.8	1298.5	10	2	Stainless Steel	Stainless Steel			1987	Replaced by permanent monitoring wells at the vault
124	07/28/87	1332.59	1333.00	1331.07	1314.1	1299.1	15	6	Black Steel	Stainless Steel	5247810.20	378417.34		
125	07/27/87	1332.14	1332.61	1330.26	1314.3	1299.3	15	6	Black Steel	Stainless Steel	5247820.51	378462.16		
126	07/29/87	1331.41	1331.87	1329.52	1309.0	1294.0	15	6	Black Steel	Stainless Steel	5247639.04	378494.14		
127	07/30/87	1328.06	1328.62	1326.36	1308.4	1293.4	15	6	Black Steel	Stainless Steel	5247649.72	378551.45		
128	08/03/87	1325.85	1326.30	1324.04	1305.0	1290.0	15	6	Black Steel	Stainless Steel	5247694.97	378578.35		
129	08/12/92	1328.85	1329.17	1327.03	1312.0	1297.0	15	6	Black Steel	Stainless Steel	5247755.44	378581.58		
130	08/12/92	1334.80	1335.16	1332.90	1313.9	1298.9	15	6	Black Steel	Stainless Steel	5247694.75	378392.35		
<b>Fish Hatchery Property</b>														
231	07/09/09	1333.51	--	1331.2	1301.2	1296.2	5	2	Black Steel	Stainless Steel	5247689.30	378361.59		
<b>Lower Aquifer Wells</b>														
324	07/10/09	1333.21	--	1331.2	1291.2	1286.2	5	2	Black Steel	Stainless Steel	5247807.51	378418.59		
329	07/10/09	1328.94	--	1327.0	1247.0	1242.0	5	2	Black Steel	Stainless Steel	5247751.30	378580.16		
330	07/14/09	1334.37	--	1331.8	1286.8	1281.8	5	2	Black Steel	Stainless Steel	5247693.75	378398.06		

Vertical Datum for Existing Wells: NAVD 88  
Vertical datum for abandoned wells is approximately 1.9 feet lower than NAVD 88  
2311005Table 4 (2009 Update)

**Table 4 - Comprehensive List of Monitoring Wells - 2009 Update  
St. Regis Paper Company Site**

Well Identification	Date Installed	Elevations [ft. MSL, NAVD 88]					Screen Dimensions		Construction Materials		Location		Year Abandoned	Reason for Abandonment
		Riser Pipe	Protective Casing	Ground Surface	Top of Screen	Bottom of Screen	Length	Diameter	Casing	Screen	Northing	Easting		
<b>OU3 - City Dump Pit Area</b>														
<b>Top of Surficial Aquifer</b>														
2101	11/27/84	1321.79		1319.2	1307.2	1297.2	10	2	Stainless Steel	Stainless Steel			1987	No longer required by monitoring program
2102	11/27/84	1318.79	1318.78	1316.01	1306.5	1296.5	10	2	Stainless Steel	Stainless Steel	5247446.51	379006.99		
2103	11/28/84	1320.28	1320.30	1317.59	1308.1	1298.1	10	2	Stainless Steel	Stainless Steel	5247416.57	378997.94		
2104	11/28/84	1319.48	1319.49	1316.68	1308.2	1298.2	10	2	Stainless Steel	Stainless Steel	5247412.15	378969.27		
2105	01/03/85	1322.90	1323.86	1321.36	1307.9	1297.9	10	2	Stainless Steel	Stainless Steel	5247357.21	378986.31		
2106	01/03/85	1309.76	1310.21	1309.09	1306.6	1296.0	10	2	Stainless Steel	Stainless Steel	5247416.84	379049.81		
2125	02/13/85	1316.90		1315.0	1307.0	1297.0	10.1	2	Stainless Steel	Stainless Steel			1987	No longer required by monitoring program
2126	02/14/85	1319.24		1317.8	1306.3	1296.3	10.2	2	Stainless Steel	Stainless Steel			1987	No longer required by monitoring program
2127	02/19/85	1306.71	1306.72	1303.95	1272.5	1267.5	5.1	2	Stainless Steel	Stainless Steel	5247295.90	379040.90		
2128	02/18/85	1305.08	1306.39	1304.23	1284.7	1279.7	5.1	2	Stainless Steel	Stainless Steel	5247344.42	379081.45		
2129	02/19/85	1307.36	1307.40	1304.03	1296.0	1291.0	5.1	2	Stainless Steel	Stainless Steel	5247292.26	379153.73		
2133	05/09/85	1318.11		1314.7	1303.2	1295.2	10	2	Stainless Steel	Stainless Steel			1987	No longer required by monitoring program
2134	04/21/86	1313.21	1313.33	1310.92	1305.9	1295.9	10	2	Stainless Steel	Stainless Steel	5247433.01	379125.44		
2135	03/25/86	1317.29	1317.38	1314.56	1307.1	1297.1	10	2	Stainless Steel	Stainless Steel	5247435.95	379201.62		
2140	02/23/09	1308.29	--	1305.11	1303.1	1293.1	10	2	Black Steel	Stainless Steel	5247390.98	379130.28		
<b>Bottom of Surficial Aquifer</b>														
2201	02/13/85	1321.90		1319.5	1275.5	1270.5	5	2	Stainless Steel	Stainless Steel			1987	No longer required by monitoring program
2226	05/06/85	1319.44		1317.3	1276.3	1271.3	5	2	Stainless Steel	Stainless Steel			1987	No longer required by monitoring program
2228	03/04/08	1306.94		1304.45	1242.5	1237.5	5	2	Black Steel	Stainless Steel	5247342.32	379080.64		
2233	05/04/06	1319.56	1320.02	1317.01	1283.0	1278.0	5	2	Stainless Steel	Black Steel	5247489.73	379014.49		
2234	02/21/87	1312.97	1313.34	1311.38	1272.9	1267.9	5	2	Stainless Steel	Stainless Steel	5247432.73	379127.90		
2236	05/09/06	1328.87	1329.31	1326.41	1292.4	1287.4	5	2	Stainless Steel	Black Steel	5247344.85	378948.27		
2237	03/03/08	1307.41		1304.68	1176.7	1171.7	5	2	Black Steel	Stainless Steel	5247328.12	379005.21	2009	To be replaced in 2009 due to impacts of grout.
2237R	03/03/09	1307.35	--	1304.82	1225.6	1220.6	5	2	Black Steel	Stainless Steel	5247330.71	379004.90		
2238	03/05/08	1306.87	--	1303.33	1237.8	1236.8	1	2	Black Steel	Stainless Steel	5247361.47	379042.76		
2239	03/05/09	1307.30	--	1304.67	1272.7	1267.7	5	2	Black Steel	Stainless Steel	5247309.68	378986.69		
<b>Lower Aquifer Wells</b>														
2301	02/12/85	1323.78	1323.82	1321.65	1252.7	1247.7	5.1	2	Stainless Steel	Stainless Steel	5247542.05	378910.30		
2325	05/07/85	1318.97	1319.17	1316.77	1242.8	1237.8	5	2	Stainless Steel	Stainless Steel	5247464.07	378859.32		
2326	05/04/85	1321.51	1321.54	1319.59	1221.6	1216.6	5	2	Stainless Steel	Stainless Steel	5247360.42	378889.88		
2329	02/22/94	1306.18	1306.55	1304.02	1245.0	1235.0	10	2	Stainless Steel	Stainless Steel	5247298.19	379162.20		
2333	05/09/85	1319.13	1319.20	1318.03	1243.0	1238.0	5	2	Stainless Steel	Stainless Steel	5247490.59	379012.97		
2335	04/26/85	1315.61	1315.48	1313.66	1191.7	1181.7	10	4	Black Steel	Stainless Steel	5247434.32	379197.81		
2336	04/26/85	1328.74	1329.14	1326.15	1231.2	1226.2	5	2	Black Steel	Stainless Steel	5247344.21	378946.67		
2339	03/05/09	1307.21	--	1304.64	1204.6	1199.6	5	2	Black Steel	Stainless Steel	5247308.23	378987.41		
<b>Pump-out Wells</b>														
2401	08/07/87	--	1313.40	1311.72	1296.2	1276.2	20	12	Black Steel	Stainless Steel	5247440.78	379028.60		
2402	08/06/87	--	1310.74	1308.87	1295.9	1275.9	20	12	Black Steel	Stainless Steel	5247411.40	379086.14		
2403	08/07/87	--	1308.39	1306.80	1286.8	1266.8	20	12	Black Steel	Stainless Steel	5247390.20	379029.79		
<b>Special Observation Wells</b>														
S2401	08/07/87	--	1313.42	1311.92	1305.9	1297.9	8	24	Black Steel	Galvanized	5247440.91	379029.69		
S2402	08/05/87	--	1310.83	1309.71	1303.7	1295.7	8	24	Black Steel	Galvanized	5247412.53	379086.46		
S2403	08/07/87	--	1307.88	1306.33	1302.3	1294.3	8	24	Black Steel	Galvanized	5247390.45	379030.63		
<b>Observation Wells</b>														
2501	09/15/87	1314.40	1314.59	1313.08	1306.1	1291.1	15	2	Galvanized	Stainless Steel	5247466.37	379029.49		
2502	09/16/87	1310.58	1310.71	1309.79	1308.8	1293.8	15	2	Galvanized	Stainless Steel	5247416.16	379060.02		
2503	09/17/87	1305.28	1305.26	1304.9	1303.1	1288.1	15	2	Galvanized	Stainless Steel	5247367.41	379027.77	2006	Screened across wetland deposit. Replaced by 2505.
2504	09/18/87	1311.45	1312.26	1310.46	1307.5	1292.5	15	2	Galvanized	Stainless Steel	5247415.35	379031.16		
2505	5/3/206	1307.16	1307.59	1304.78	1250.8	1245.8	5	2	Stainless Steel	Black Steel	5247371.99	379026.10		
<b>DNR Well</b>														
11016	--	1323.96	--	1322.13	1301.9	1299.9	2	2	Stainless Steel	Black Steel	5248352.02	379270.03	2009	Removed by Enbridge Pipeline Construction Project

Vertical Datum for Existing Wells: NAVD 88  
Vertical datum for abandoned wells is approximately 1.9 feet lower than NAVD 88  
2311005Table 4 (2009 Update)

**Table 5**

**Summary of Groundwater Extraction Rate and Precipitation  
St. Regis Paper Company Site**

Month	OU1										OU3			Extraction System [gpm]	Precipitation [inches]
	401 [gpm]	402 [gpm]	403 [gpm]	404 [gpm]	405 [gpm]	406 [gpm]	407 [gpm]	408 [gpm]	409 [gpm]	410 [gpm]	2401 [gpm]	2402 [gpm]	2403 [gpm]		
Jan-09	5.6	5.5	6.0	---	20.2	5.7	10.4	4.1	15.5	5.7	7.0	15.4	14.1	115.2	0.52
Feb-09	5.7	5.1	6.0	---	19.6	11.0	11.1	2.5	15.2	5.5	6.2	14.4	20.0	122.3	1.06
Mar-09	5.6	4.7	6.0	---	17.8	10.0	10.9	0.0	15.0	5.4	6.0	14.3	19.6	115.3	3.75
Apr-09	5.5	3.9	6.0	---	20.7	6.8	10.4	0.0	15.4	4.1	4.3	13.6	20.6	111.3	1.35
May-09	5.4	3.5	5.9	---	20.5	7.6	11.2	0.0	15.4	4.3	4.7	13.5	17.6	109.6	1.43
Jun-09	5.4	5.4	5.6	---	20.5	10.5	10.4	0.0	18.5	6.5	4.6	13.8	13.4	114.6	2.95
Jul-09	5.3	5.4	5.3	---	20.1	10.8	10.2	0.0	20.0	5.9	3.2	13.7	11.1	111.0	2.26
Aug-09	4.6	5.5	5.5	---	20.3	6.9	8.6	0.0	19.9	5.4	2.6	13.1	10.7	103.1	2.63
Sep-09	5.0	5.7	5.7	12.2	19.2	9.4	10.3	0.0	19.7	4.9	6.9	12.4	10.0	121.4	1.74
Oct-09	5.8	5.7	5.8	13.6	20.6	7.8	10.3	0.0	19.7	3.2	7.7	10.9	14.3	125.5	3.01
Nov-09	5.7	5.4	5.7	14.9	20.5	7.3	9.5	0.0	19.7	1.8	7.0	11.0	13.2	121.5	0.84
Dec-09	5.8	5.3	5.8	14.2	20.2	7.7	9.4	0.0	20.1	4.9	8.4	11.3	12.5	125.5	1.24

**Table 6**  
**Routine Parameter List and Method Reporting Limits**  
**St. Regis Paper Company Site**

Analyte	CAS Number	SW-846 Method 8270 [µg/L]		SW-846 Method 8270-SIM [µg/L]	
		Method Reporting Limit	Method Detection Limit <sup>(1)</sup>	Method Reporting Limit	Method Detection Limit <sup>(1)</sup>
<b>PAHs</b>					
2-Methylnaphthalene	91-57-6	10	0.239	0.02	0.003
Acenaphthene	83-32-9	10	0.281	0.02	0.002
Acenaphthylene	208-96-8	10	0.236	0.02	0.002
Anthracene	120-12-7	10	0.612	0.02	0.002
Benz[a]anthracene	56-55-3	10	0.591	0.02	0.003
Benzo[a]pyrene	50-32-8	10	0.654	0.02	0.002
Benzo[b]fluoranthene	205-99-2	10	0.584	0.02	0.002
Benzo[ghi]perylene	191-24-2	10	0.812	0.02	0.004
Benzo[k]fluoranthene	207-08-9	10	0.827	0.02	0.002
Chrysene	218-01-9	10	0.787	0.02	0.002
Dibenz[a,h]anthracene	53-70-3	10	0.752	0.02	0.002
Fluoranthene	206-44-0	10	0.652	0.02	0.003
Fluorene	86-73-7	10	0.323	0.02	0.003
Indeno[1,2,3-cd]pyrene	193-39-5	10	0.684	0.02	0.003
Naphthalene	91-20-3	10	0.365	0.02	0.004
Phenanthrene	85-01-8	10	0.482	0.02	0.004
Pyrene	129-00-0	10	0.731	0.02	0.003
Pentachlorophenol	87-86-5	25	2.44	1	0.095
		<b>SW-846 Method 8151 [µg/L]</b>			
Pentachlorophenol	87-86-5	0.5	0.095		

**Notes:**

CAS - Chemical Abstracts Service

PCDD - polychlorinated dibenzo-*p*-dioxin

PCDF - polychlorinated dibenzofuran

NA - not applicable

<sup>(1)</sup> Method detection limits are subject to change based on the laboratory's MDL study schedule.

**Table 7**  
**Additional Parameter List and Method Reporting Limits**  
**St. Regis Paper Company Site**

Analyte	CAS Number	Method Reporting Limit	Method Detection Limit <sup>(1)</sup>
<b>Extended-list PAHs</b>		<b>SW-846 Method 8270-SIM [µg/L]</b>	
Benzo(j)fluoranthene		0.02	0.0035
Dibenz(a,i)acridine		0.02	0.0029
Dibenz(a,h)acridine		0.02	0.0029
7H-Dibenzo(c,g)carbazole		0.02	0.0013
Dibenzo(a,e)pyrene		0.02	0.0019
Dibenzo(a,h)pyrene		0.02	0.0014
Dibenzo(a,i)pyrene		0.02	0.053
Dibenzo(a,l)pyrene		0.02	0.0015
7,12-Dimethylbenzanthracene		0.02	0.0015
1,6-Dinitropyrene		0.05	0.0076
1,8-Dinitropyrene		0.05	0.0032
3-Methylcholanthrene		0.02	0.0027
5-Methylchrysene		0.02	0.0014
5-Nitroacenaphthene		0.02	0.0021
1-Nitropyrene		0.03	0.0083
6-Nitrochrysene		0.02	0.0015
2-Nitrofluorene		0.02	0.0016
<b>Dioxin/Furans <sup>(2)</sup></b>		<b>SW-846 Method 8290 [pg/L]</b>	
2378-TCDD	1746-01-6	10.0	3.1
12378-PeCDD	40321-76-4	50.0	9.3
123678-HxCDD	57653-85-7	50.0	6.0
123478-HxCDD	39227-28-6	50.0	10.6
123789-HxCDD	19408-74-3	50.0	18.7
1234678-HpCDD	35822-46-9	50.0	8.1
OCDD	3268-87-9	100.0	38.0
2378-TCDF	51207-31-9	10.0	2.5
12378-PeCDF	57117-41-6	50.0	9.4
23478-PeCDF	57117-31-4	50.0	9.4
123678-HxCDF	57117-44-9	50.0	4.6
123789-HxCDF	72918-21-9	50.0	9.7
123478-HxCDF	70648-26-9	50.0	8.6
234678-HxCDF	60851-34-5	50.0	6.1
1234678-HpCDF	67562-39-4	50.0	4.3
1234789-HpCDF	55673-89-7	50.0	7.7
OCDF	39001-02-0	100.0	46.0
Total tetrachlorinated dioxins	41903-57-5	NA	NA
Total pentachlorinated dioxins	36088-22-9	NA	NA
Total hexachlorinated dioxins	34465-46-8	NA	NA
Total heptachlorinated dioxins	37871-00-4	NA	NA
Total tetrachlorinated furans	30402-14-3	NA	NA
Total pentachlorinated furans	30402-15-4	NA	NA
Total hexachlorinated furans	55684-94-1	NA	NA
Total heptachlorinated furans	38998-75-3	NA	NA
<b>BTEX</b>		<b>SW-846 Method 8260 [µg/L]</b>	
Benzene	71-43-2	0.5	0.105
Ethylbenzene	100-41-4	0.5	0.13
Toluene	108-88-3	0.5	0.0975
Xylenes (Total)	1330-20-7	1.0	0.219
<b>DRO</b>		<b>SW-846 Method 8015M [µg/L]</b>	
Diesel-Range Organics w/Silica gel		50	19

**Table 7**  
**Additional Parameter List and Method Reporting Limits**  
**St. Regis Paper Company Site**

Analyte	CAS Number	Method Reporting Limit	Method Detection Limit <sup>(1)</sup>
<b>Metals</b>		<b>SW-846 Method 7195/6010B [µg/L]</b>	
Arsenic	7440-38-2	0.5	0.1
Chromium, Total	7440-47-3	0.2	0.06
Copper	7440-50-8	0.2	0.2
Hexavalent Chromium (Cr VI)		10	4
Trivalent Chromium (Cr III) (by calc)		n/a	n/a

**Notes:**

CAS - Chemical Abstracts Service

PCDD - polychlorinated dibenzo-*p*-dioxin

PCDF - polychlorinated dibenzofuran

NA - not applicable

<sup>(1)</sup> Method detection limits are subject to change based on the laboratory's MDL study schedule.

<sup>(2)</sup> Method detection limits for dioxin analysis are actually EDLs per Method 8290. The EDLs are sample specific, therefore, the values shown represent the typical level of sensitivity of the method and are not intended to be absolute.

**Table 8  
2009 Water Elevations  
St. Regis Paper Company Site and City Dump Site**

[Elevation datum: NAVD 88]

Date:	05/08/09		10/02/09	
Monitoring Location	Water Elevation [ft. MSL]	Rationale for Exclusion	Water Elevation [ft. MSL]	Rationale for Exclusion
<b>OU1 - Treating Facility Area</b>				
W104	1304.78		1303.91	
W105R	1303.85		1302.76	
W112	1303.63		1302.16	
W114	1303.79		1302.25	
W115	1303.50		1302.17	
W118	1305.21		1304.45	
DNR #11016	1305.61		NM	Removed during Enbridge pipeline construction.
W205	1303.81		1302.76	
W209	1304.35		1303.33	
W212	1303.73		1302.45	
W213	1303.66		1302.36	
W215	1303.60		1302.45	
W217	1303.41		1302.26	
W218	1305.17		1304.49	
W219	1303.55		1302.25	
W220	1303.68		1302.34	
W221	1303.34		1302.30	
W222	1304.00		NM	Not accessible due to Enbridge pipeline construction.
W223	1303.94		1303.11	
MW3	1307.05		1306.97	
W302	1306.67		1306.47	
W306	1304.10		1303.06	
W401	1301.32		1299.95	
W402	1303.19		1301.65	
W403	1302.94		1301.65	
W404	1303.64		1298.38	
W405	1287.56		1297.24	
W406	1301.46		1292.01	
W407	1299.46		1298.46	
W408	1303.72		1302.46	
W409	1299.46		1296.70	
W410	1303.67		1299.03	
W411	1303.80		1302.65	
S401	1305.22		1304.34	
S402	1303.99		1302.78	
S403	1304.81		1302.41	
S405	1303.77		1301.99	
W509	1303.71		1302.40	
W510	1303.67		1302.37	
W511	1303.61		1302.34	
W512	1303.69		1302.34	
W513	1303.45		1302.18	
W514	1303.75		1302.50	
North Staff	1303.5		1302.1	
RR Staff	1303.5		1302.2	
South Staff	1303.5		1302.1	

**Table 8  
2009 Water Elevations  
St. Regis Paper Company Site and City Dump Site**

[Elevation datum: NAVD 88]

Date:	05/08/09		10/02/09	
Monitoring Location	Water Elevation [ft. MSL]	Rationale for Exclusion	Water Elevation [ft. MSL]	Rationale for Exclusion
<b>OU2 - Containment Vault Area</b>				
W124	1306.28		1307.09	
W125	1306.42		1307.10	
W126	1305.71		1306.20	
W127	1305.76		1306.17	
W128	1305.90		1306.20	
W129	1306.21		1306.43	
W130	1305.70		1306.49	
W231	--		1306.49	
W324	--		1306.81	
W329	--		1306.51	
W330	--		1307.03	
<b>OU3 - City Dump Area</b>				
W2102	1304.93		1304.44	
W2103	1304.69		1304.30	
W2104	1304.99		1304.58	
W2105	1304.54		1304.38	
W2106	1304.29		1303.97	
W2127	1304.35		1304.01	
Fox Creek @ W2127	1303.5		1303.5	
W2128	1304.41		1304.05	
W2129	1303.80		1303.49	
W2134	1304.35		1303.83	
W2135	1304.32		1303.71	
W2139	1304.81		1304.58	
W2140	1304.45		1303.97	
W2228	1304.59		1304.19	
W2233	1304.94		1304.48	
W2234	1304.41		1303.89	
W2236	1304.80		1304.69	
W2237R	1304.94		1304.63	
W2238	1304.46		1304.22	
W2239	1304.81		1304.58	
W2301	1305.29		1305.24	
W2325	1305.29		1305.22	
W2326	1305.23		1305.11	
W2329	1304.63		1304.03	
W2333	1305.13		1304.83	
W2335	1304.74		1304.15	
W2336	1304.92		1304.74	
W2339	1304.98		1304.66	
W2401	1283.04		1298.64	
W2403	1279.62		1282.35	
W2402	1295.58		1295.77	
S2401	1304.22		1303.67	
S2403	1303.53		1303.31	
S2402	1303.81		1303.36	
W2501	1304.73		1304.29	
W2502	1304.37		1304.00	
W2504	1304.35		1303.98	
W2505	1304.48		1304.15	

**Table 8**  
**2009 Water Elevations**  
**St. Regis Paper Company Site and City Dump Site**

[Elevation datum: NAVD 88]

Date:	05/08/09		10/02/09	
Monitoring Location	Water Elevation [ft. MSL]	Rationale for Exclusion	Water Elevation [ft. MSL]	Rationale for Exclusion

**Notes:**

NM - Not measured.

- Elevation used in surficial aquifer evaluation.
- Estimated elevation used in surficial aquifer evaluation
- Elevation used in lower aquifer evaluation.

**Table 9**  
**Groundwater Quality Data - Shallow Surficial Aquifer**  
**OU1 - Treating Facility Site**  
**St. Regis Paper Company Site**

Sys Loc Code				W105R	W105R	W114	W115
Sample Date				05/13/2009	11/11/2009	05/13/2009	05/13/2009
Sample Type Code				N	N	N	N
Chemical Name	Total or Dissolved	Analysis Location	Drinking Water Criteria				
Effective Date							
Exceedance Key			Bold				
Benzo(a)anthracene	NA	Lab		< 0.0027 ug/l	0.0035 j ug/l	< 0.0026 ug/l	< 0.0027 ug/l
Chrysene	NA	Lab		< 0.0035 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0035 ug/l
Benzo(b)fluoranthene	NA	Lab		< 0.0024 ug/l	< 0.0023 ug/l	< 0.0023 ug/l	< 0.0024 ug/l
Benzo(k)fluoranthene	NA	Lab		< 0.0026 ug/l	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0026 ug/l
Benzo(a)pyrene	NA	Lab		< 0.0044 ug/l	< 0.0043 ug/l	< 0.0043 ug/l	< 0.0044 ug/l
Indeno(1,2,3-cd)pyrene	NA	Lab		< 0.0027 ug/l	< 0.0026 ug/l	< 0.0026 ug/l	< 0.0027 ug/l
Dibenz(a,h)anthracene	NA	Lab		< 0.0026 ug/l	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0026 ug/l
BaP equivalent, non-detects at half of the detection limit. <sup>1</sup>	NA	Lab	0.2 ug/l	<0.0035 ug/l	0.0036 a ug/l	<0.0034 ug/l	<0.0035 ug/l
BaP equivalent, non-detects at zero for the detection limit. <sup>2</sup>	NA	Lab	0.2 ug/l	ND ug/l	0.0004 a ug/l	ND ug/l	ND ug/l
2-Methylnaphthalene	NA	Lab		< 0.0024 ug/l	0.0045 j ug/l	< 0.0023 ug/l	< 0.0024 ug/l
Acenaphthene	NA	Lab	400 ug/l	< 0.0045 ug/l	0.0048 j ug/l	< 0.0044 ug/l	< 0.0045 ug/l
Acenaphthylene	NA	Lab		< 0.0035 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0035 ug/l
Anthracene	NA	Lab	2000 ug/l	0.0091 j ug/l	0.0070 j ug/l	< 0.0036 ug/l	< 0.0037 ug/l
Benzo(g,h,i)perylene	NA	Lab		< 0.0030 ug/l	< 0.0029 ug/l	< 0.0029 ug/l	< 0.0030 ug/l
Fluoranthene	NA	Lab	300 ug/l	0.0059 ug/l	0.0046 j ug/l	< 0.0044 ug/l	< 0.0045 ug/l
Fluorene	NA	Lab	300 ug/l	< 0.0039 ug/l	< 0.0038 ug/l	< 0.0038 ug/l	< 0.0039 ug/l
Naphthalene	NA	Lab	300 ug/l	< 1.7 ug/l	< 1.3 ug/l	< 0.0063 ug/l	< 0.0050 ug/l
Phenanthrene	NA	Lab		0.0097 j ug/l	0.0058 j ug/l	< 0.0050 ug/l	< 0.0052 ug/l
Pyrene	NA	Lab	200 ug/l	< 0.0036 ug/l	< 0.0035 ug/l	< 0.0035 ug/l	< 0.0036 ug/l
Pentachlorophenol	NA	Lab	<b>1 ug/l</b>	<b>73 ug/l</b>	0.84 ug/l	< 0.16 ug/l	< 0.16 ug/l

**Table 10**  
**Groundwater Quality Data - Base of Surficial Aquifer**  
**OU1 - Treating Facility Site**  
**St. Regis Paper Company Site**

Sys Loc Code				W212		W212	W212	W213	W213	W213	W213
Sample Date				05/18/2009		08/25/2009	11/10/2009	02/18/2009	05/19/2009	08/26/2009	11/11/2009
Sample Type Code				N	FD	N	N	N	N	N	N
Chemical Name	Total or Dissolved	Analysis Location	Drinking Water Criteria								
Effective Date											
Exceedance Key			<b>Bold</b>								
Benzo(a)anthracene	NA	Lab		< 0.0032 ug/l	< 0.0026 ug/l	< 0.0026 ug/l	< 0.0026 ug/l	< 0.0026 ug/l	< 0.0032 ug/l	< 0.0026 ug/l	< 0.0026 ug/l
Chrysene	NA	Lab		< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l
Benzo(b)fluoranthene	NA	Lab		< 0.0023 ug/l	< 0.0023 ug/l	< 0.0023 ug/l	< 0.0023 ug/l	< 0.0023 ug/l	< 0.0023 ug/l	< 0.0023 ug/l	< 0.0023 ug/l
Benzo(k)fluoranthene	NA	Lab		< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l
Benzo(a)pyrene	NA	Lab		< 0.0043 ug/l	< 0.0043 ug/l	< 0.0043 ug/l	< 0.0043 ug/l	< 0.0043 ug/l	< 0.0043 ug/l	< 0.0043 ug/l	< 0.0043 ug/l
Indeno(1,2,3-cd)pyrene	NA	Lab		< 0.0026 ug/l	< 0.0026 ug/l	< 0.0026 ug/l	< 0.0026 ug/l	< 0.0026 ug/l	< 0.0026 ug/l	< 0.0026 ug/l	< 0.0026 ug/l
Dibenz(a,h)anthracene	NA	Lab		< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l
BaP equivalent, non-detects at half of the detection limit. <sup>1</sup>	NA	Lab	0.2 ug/l	<0.0026 ug/l	<0.0025 ug/l	<0.0025 ug/l	<0.0025 ug/l	<0.0025 ug/l	<0.0026 ug/l	<0.0025 ug/l	<0.0025 ug/l
BaP equivalent, non-detects at zero for the detection limit. <sup>2</sup>	NA	Lab	0.2 ug/l	ND ug/l	ND ug/l	ND ug/l	ND ug/l	ND ug/l	ND ug/l	ND ug/l	ND ug/l
2-Methylnaphthalene	NA	Lab		0.049 ug/l	0.054 ug/l	< 0.021 ug/l	0.010 j ug/l	0.013 j ug/l	0.0069 j ug/l	< 0.0069 ug/l	0.0062 j ug/l
Acenaphthene	NA	Lab	400 ug/l	0.018 j ug/l	0.023 ug/l	0.020 j ug/l	0.014 j ug/l	4.9 ug/l	14 ug/l	8.8 ug/l	9.3 ug/l
Acenaphthylene	NA	Lab		< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	0.071 ug/l	0.14 ug/l	0.14 ug/l	0.14 ug/l
Anthracene	NA	Lab	2000 ug/l	0.014 j ug/l	0.028 ug/l	0.022 ug/l	0.028 ug/l	0.16 ug/l	0.31 ug/l	0.28 ug/l	0.31 ug/l
Benzo(g,h,i)perylene	NA	Lab		< 0.0029 ug/l	< 0.0029 ug/l	< 0.0029 ug/l	< 0.0029 ug/l	< 0.0029 ug/l	< 0.0029 ug/l	< 0.0029 ug/l	< 0.0029 ug/l
Fluoranthene	NA	Lab	300 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l
Fluorene	NA	Lab	300 ug/l	< 0.0038 ug/l	< 0.0038 ug/l	< 0.0038 ug/l	< 0.0038 ug/l	0.66 ug/l	1.3 ug/l	1.2 ug/l	1.3 ug/l
Naphthalene	NA	Lab	300 ug/l	0.89 ug/l	1.2 ug/l	0.91 ug/l	0.34 ug/l	1.4 ug/l	5.4 ug/l	4.4 ug/l	3.2 ug/l
Phenanthrene	NA	Lab		< 0.0050 ug/l	0.0094 j ug/l	< 0.0088 ug/l	< 0.0050 ug/l	0.011 j ug/l	0.024 ug/l	< 0.016 ug/l	0.018 j ug/l
Pyrene	NA	Lab	200 ug/l	< 0.0035 ug/l	< 0.0035 ug/l	< 0.0035 ug/l	< 0.0035 ug/l	< 0.0035 ug/l	< 0.0035 ug/l	0.0055 j ug/l	< 0.0035 ug/l
Pentachlorophenol	NA	Lab	<b>1 ug/l</b>	<b>12 ug/l</b>	<b>13 ug/l</b>	<b>12 ug/l</b>	<b>9.0 ug/l</b>	< 0.16 ug/l	< 0.16 ug/l	< 0.16 ug/l	< 0.16 ug/l

**Table 10**  
**Groundwater Quality Data - Base of Surficial Aquifer**  
**OU1 - Treating Facility Site**  
**St. Regis Paper Company Site**

		Sys Loc Code		W215	W220	W220		W220	W220
		Sample Date		05/19/2009	02/17/2009	05/18/2009		08/25/2009	11/11/2009
		Sample Type Code		N	N	N	FD	N	N
Chemical Name	Total or Dissolved	Analysis Location	Drinking Water Criteria						
Effective Date									
Exceedance Key			Bold						
Benzo(a)anthracene	NA	Lab		< 0.0026 ug/l	0.0035 j ug/l	< 0.0042 ug/l	< 0.0027 ug/l	< 0.0026 ug/l	< 0.0026 ug/l
Chrysene	NA	Lab		< 0.0034 ug/l	< 0.0034 ug/l	< 0.0035 ug/l	< 0.0035 ug/l	< 0.0034 ug/l	< 0.0034 ug/l
Benzo(b)fluoranthene	NA	Lab		< 0.0023 ug/l	< 0.0023 ug/l	0.0028 j ug/l	< 0.0024 ug/l	< 0.0023 ug/l	< 0.0023 ug/l
Benzo(k)fluoranthene	NA	Lab		< 0.0025 ug/l	< 0.0025 ug/l	< 0.0026 ug/l	< 0.0026 ug/l	< 0.0025 ug/l	< 0.0025 ug/l
Benzo(a)pyrene	NA	Lab		< 0.0043 ug/l	< 0.0043 ug/l	< 0.0044 ug/l	< 0.0045 ug/l	< 0.0043 ug/l	< 0.0043 ug/l
Indeno(1,2,3-cd)pyrene	NA	Lab		< 0.0026 ug/l	< 0.0026 ug/l	0.0036 j ug/l	< 0.0027 ug/l	< 0.0026 ug/l	< 0.0026 ug/l
Dibenz(a,h)anthracene	NA	Lab		< 0.0025 ug/l	< 0.0025 ug/l	0.0037 j ug/l	< 0.0026 ug/l	< 0.0025 ug/l	< 0.0025 ug/l
BaP equivalent, non-detects at half of the detection limit. <sup>1</sup>	NA	Lab	0.2 ug/l	<0.0025 ug/l	0.0028 a ug/l	0.0044 a ug/l	<0.0026 ug/l	<0.0025 ug/l	<0.0025 ug/l
BaP equivalent, non-detects at zero for the detection limit. <sup>2</sup>	NA	Lab	0.2 ug/l	ND ug/l	0.0004 a ug/l	0.0027 a ug/l	ND ug/l	ND ug/l	ND ug/l
2-Methylnaphthalene	NA	Lab		0.012 j ug/l	0.0096 j ug/l	< 0.0047 ug/l	< 0.0051 ug/l	< 0.0029 ug/l	0.0038 j ug/l
Acenaphthene	NA	Lab	400 ug/l	0.070 ug/l	0.026 ug/l	0.028 ug/l	0.029 ug/l	0.019 j ug/l	0.025 ug/l
Acenaphthylene	NA	Lab		< 0.0034 ug/l	< 0.0083 ug/l	< 0.013 ug/l	< 0.0099 ug/l	< 0.0061 ug/l	< 0.0034 ug/l
Anthracene	NA	Lab	2000 ug/l	0.035 ug/l	0.061 ug/l	0.1 ug/l	0.096 ug/l	0.062 ug/l	0.092 ug/l
Benzo(g,h,i)perylene	NA	Lab		< 0.0029 ug/l	< 0.0029 ug/l	0.0057 j ug/l	< 0.0030 ug/l	< 0.0029 ug/l	< 0.0029 ug/l
Fluoranthene	NA	Lab	300 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0045 ug/l	< 0.0046 ug/l	< 0.0044 ug/l	< 0.0044 ug/l
Fluorene	NA	Lab	300 ug/l	< 0.0038 ug/l	0.28 ug/l	0.33 ug/l	0.31 ug/l	0.25 ug/l	0.28 ug/l
Naphthalene	NA	Lab	300 ug/l	0.15 ug/l	5.2 ug/l	2 ug/l	2.4 ug/l	< 0.025 ug/l	0.22 ug/l
Phenanthrene	NA	Lab		< 0.0050 ug/l	0.0092 j ug/l	0.012 j ug/l	0.013 j ug/l	< 0.011 ug/l	0.011 j ug/l
Pyrene	NA	Lab	200 ug/l	< 0.0035 ug/l	< 0.0035 ug/l	0.0049 j ug/l	< 0.0036 ug/l	0.0038 j ug/l	< 0.0035 ug/l
Pentachlorophenol	NA	Lab	<b>1 ug/l</b>	< 0.16 ug/l	<b>11 ug/l</b>	<b>5.5 ug/l</b>	<b>5.6 ug/l</b>	<b>2.2 ug/l</b>	1.0 ug/l

**Table 11**  
**Groundwater Quality Data - Lower Aquifer**  
**OU1 - Treating Facility Site**  
**St. Regis Paper Company Site**

Sys Loc Code				W306
Sample Date				05/14/2009
Sample Type Code				N
Chemical Name	Total or Dissolved	Analysis Location	Drinking Water Criteria	
<b>Effective Date</b>				
<b>Exceedance Key</b>			No Exceed	
Benzo(a)anthracene	NA	Lab		< 0.0027 ug/l
Chrysene	NA	Lab		< 0.0035 ug/l
Benzo(b)fluoranthene	NA	Lab		< 0.0024 ug/l
Benzo(k)fluoranthene	NA	Lab		< 0.0026 ug/l
Benzo(a)pyrene	NA	Lab		< 0.0044 ug/l
Indeno(1,2,3-cd)pyrene	NA	Lab		< 0.0027 ug/l
Dibenz(a,h)anthracene	NA	Lab		< 0.0026 ug/l
BaP equivalent, non-detects at half of the detection limit. <sup>1</sup>	NA	Lab	0.2 ug/l	<0.0035 ug/l
BaP equivalent, non-detects at zero for the detection limit. <sup>2</sup>	NA	Lab	0.2 ug/l	ND ug/l
2-Methylnaphthalene	NA	Lab		0.0052 j ug/l
Acenaphthene	NA	Lab	400 ug/l	< 0.0045 ug/l
Acenaphthylene	NA	Lab		< 0.0035 ug/l
Anthracene	NA	Lab	2000 ug/l	< 0.0037 ug/l
Benzo(g,h,i)perylene	NA	Lab		< 0.0030 ug/l
Fluoranthene	NA	Lab	300 ug/l	< 0.0045 ug/l
Fluorene	NA	Lab	300 ug/l	< 0.0039 ug/l
Naphthalene	NA	Lab	300 ug/l	< 0.020 ug/l
Phenanthrene	NA	Lab		0.0057 j ug/l
Pyrene	NA	Lab	200 ug/l	< 0.0036 ug/l
Pentachlorophenol	NA	Lab	1 ug/l	< 0.16 ug/l

**Table 12  
Surface Water Quality  
Cass Lake/Pike Bay Channel  
St. Regis Paper Company Site**

				Sys Loc Code	CL-N	CL-S
				Sample Date	05/12/2009	05/12/2009
				Sample Type Code	N	N
Chemical Name	Total or Dissolved	Analysis Location	Surface Water Standards			
Pentachlorophenol	NA	Lab	5.5 ug/l	< 0.16 ug/l	< 0.16 ug/l	

Surface Water Standard = 5.5 ug/l @ 7.0 pH

**Table 13**  
**Water Quality Data Over Time**  
**OU1 - Treating Facility Area**  
**St. Regis Paper Company and City Dump Pit Sites**  
**(concentrations in ug/L)**

Top of Surficial Aquifer																						
Year	MW104			MW105			MW112			MW113			MW114			MW115			MW118			
	BaP Eq	Naph.	PCP	BaP Eq	Naph.	PCP	BaP Eq	Naph.	PCP	BaP Eq	Naph.	PCP	BaP Eq	Naph.	PCP	BaP Eq	Naph.	PCP	BaP Eq	Naph.	PCP	
DWC	0.2	300	1	0.2	300	1	0.2	300	1	0.2	300	1	0.2	300	1	0.2	300	1	0.2	300	1	
1986	0.59 U	1.7	670	0.0011 U	0.023	5 U	0.0015	0.016	6 U	0.0028 U	0.019	5 U	0.0028 U	0.017	5 U	0.0011 U			6 U			
1987	5.9 U	14	1,000	---	---	---	0.0016	0.026	6 U	5.9 U	6.6	100	0.0011 U	0.0093	6 U	0.0011 U	0.012	6 U	1200 U	5,600	150,000	
1988	5.9 U	28	990	---	---	---	0.0026	0.0064	6 U	0.039 U	0.0064	6 U	0.0011 U	0.0067	6 U	0.0023 U	0.0074	6 U	590 U	9,000	49,000	
1989	9.9 U	10 U	330	---	---	---	0.0022	0.0038 U	6 U	0.0011 U	0.006	6 U	0.0011 U	0.0086	6 U	0.0011 U	0.0064	6 U	200 U	1,500	46,000	
1990	9.9 U	10 U	820	---	---	---	0.0021 U	0.0038	6 U	0.0013	0.0019 U	6 U	0.0011 U	0.002	6 U	0.0011 U	0.0019 U	6 U	150 U	1,300	54,000	
1991	9.9 U	10 U	200	---	---	---	0.12 U	1.1	6 U	0.003 U	1.9	6 U	0.003 U	0.0094	6 U	0.003 U	0.0111	6 U	1200 U	6,700	60,000	
1992	9.9 U	10 U	84	---	---	---	0.003 U	0.004 U	6 U	0.028	0.021	6 U	0.0059 U	0.008 U	6 U	0.003 U	0.0086	6 U	---	---	---	
1993	0.21 U	0.29 U	250	0.003 U	0.0125	6 U	0.003 U	0.004 U	6 U	0.0059	0.0198	6 U	0.003 U	0.0121	6 U	0.003 U	0.0113	6 U	---	---	---	
1994	0.12 U	0.244	110	0.003 U	0.01	3 U	0.0038	0.011	3 U	0.03 U	0.031	3 U	0.003 U	0.022	3 U	0.003 U	0.011	3 U	---	---	---	
1995	0.59 U	3.8	590	---	---	---	0.0033	0.003	3 U	---	---	---	0.003 U	0.004	3 U	0.003 U	0.003	3 U	---	---	---	
1996	---	---	---	---	---	---	---	---	---	---	---	---	9.9 U	10 U	50 U	9.9 U	10 U	50 U	---	---	---	
1997	79 U	80 U	740	---	---	---	9.9 U	10 U	50 U	---	---	---	9.9 U	10 U	50 U	9.9 U	10 U	50 U	---	---	---	
1998	---	---	---	---	---	---	---	---	---	---	---	---	0.0099 U	0.1 U	5 U	0.099 U	0.1 U	5 U	---	---	---	
1999	0.02 U	0.94	1000	0.02 U	0.02 U	3 U	0.02 U	0.02 U	3 U	---	---	---	0.02 U	0.02 U	3 U	0.02 U	0.02 U	3 U	---	---	---	
2000	---	---	---	---	---	---	---	---	---	---	---	---	0.02 U	0.02 U	3 U	0.02 U	0.02 U	3 U	---	---	---	
2001	0.019 U	14	2400	0.02 U	0.02 U	0.5 U	0.019 U	0.019 U	0.5 U	---	---	---	0.019 U	0.019 U	0.5 U	0.019 U	0.019 U	0.5 U	---	---	---	
2002	---	---	---	---	---	---	---	---	---	---	---	---	0.02 U	0.02 U	3 U	0.021 U	0.021 U	3.1 U	---	---	---	
2003	0.020 U	30	3200	0.02 U	0.02 U	0.5 U	0.02 U	0.02 U	0.5 U	---	---	---	0.02 U	0.02 U	0.5 U	0.02 U	0.02 U	0.5 U	---	---	---	
2004	---	---	---	0.02 U	0.02 U	0.96 U	---	---	---	---	---	---	0.02 U	0.02 U	0.96 U	0.02 U	0.02 U	0.96 U	---	---	---	
2005	0.020 U	1.7	310	0.021 U	0.021 U	0.5 U	0.02 U	0.02 U	0.5 U	---	---	---	0.021 U	0.021 U	0.5 U	0.022 U	0.022 U	0.5 U	---	---	---	
2006	0.004 U	0.2 U	670	0.004 U	0.031 U	0.13 U	0.006 a	0.0066 U	0.13 U	---	---	---	0.004 U	0.0078 U	0.13 U	0.004 U	0.009 U	0.13 U	---	---	---	
2007	0.004 U	0.74	290	0.0097 a	0.78	36	0.0044 a	0.0065 U	0.13 U	---	---	---	0.004 U	0.0065 U	0.13 U	0.004 U	0.0067 U	0.13 U	---	---	---	
2008	0.0034 U	0.16 U	220	0.0034 U	1.5 U	66	0.0042 a	0.0070 U	0.080 U	---	---	---	0.0034 U	0.011 U	0.080 U	0.0034 U	0.013 U	0.080 U	---	---	---	
2009	---	---	---	0.0036 a	1.7 U	73	---	---	---	---	---	---	0.0034 U	0.0063 U	0.16 U	0.0035 U	0.0050 U	0.16 U	---	---	---	
						0.84 <sup>(1)</sup>																

--- No sample collected or analyzed.

a Estimated value, calculated using some or all values that are estimates.

U Value is non-detect at the method reporting limit.

Shaded cell indicates concentration above response action level (DWC).

BaP Eq - Benzo(a)pyrene equivalency calculated at ND = 1/2 DL.

Naph. - Naphthalene concentration

PCP - Pentachlorophenol concentration

MW105 was replaced with MW105R in 2007 and is denoted by a break in the data set.

s - Potential false positive value based on statistical analysis of blank sample data

<sup>(1)</sup> sample collected in November 2009 reported 0.84 µg/L for PCP

**Table 13**  
**Water Quality Data Over Time**  
**OU1 - Treating Facility Area**  
**St. Regis Paper Company and City Dump Pit Sites**  
**(concentrations in ug/L)**

Base of Surficial Aquifer																					
Year	MW205			MW209			MW212			MW213			MW215			MW217			MW218		
	BaP Eq	Naph.	PCP	BaP Eq	Naph.	PCP	BaP Eq	Naph.	PCP	BaP Eq	Naph.	PCP	BaP Eq	Naph.	PCP	BaP Eq	Naph.	PCP	BaP Eq	Naph.	PCP
DWC	0.2	300	1	0.2	300	1	0.2	300	1	0.2	300	1	0.2	300	1	0.2	300	1	0.2	300	1
1986	0.0028 U	0.013	6 U	0.0191	0.075	6 U	5.8 U	980	8900	12 U	1,300	20,000	0.0011 U		6 U	0.0028 U	0.041	6 U			
1987	---	---	---	---	---	---	120 U	740	4000	120 U	1,100	12,000	5.9 U	11	27,000	0.0011 U	0.011	6 U	0.031	0.038 U	3,000
1988	---	---	---	---	---	---	5.9 U	550	3800	5.9 U	1,200	4,800	5.9 U	8.6	4,400	0.0011 U	0.007	6 U	0.011 U	1.4	860
1989	---	---	---	---	---	---	20 U	230	3500	20 U	1,000	12,000	9.9 U	10 U	2,700	0.0011 U	0.0094	6 U	0.045 U	1.9	78
1990	---	---	---	---	---	---	9.9 U	52	5100	9.9 U	470	5,800	9.9 U	13	4,200	0.0011 U	0.0019 U	6 U	0.09 U	8.8	490
1991	---	---	---	---	---	---	99 U	28	2200	39 U	810	830	99 U	100 U	2,800	0.003 U	0.011	6 U	0.059 U	0.08 U	170
1992	---	---	---	---	---	---	150 U	150 U	2200	9.9 U	150	300	74 U	75 U	1,900	0.0053	0.019	6 U	0.024 U	0.032 U	14
1993	0.003 U	0.0113	6 U	---	---	---	9.9 U	13	2900	9.9 U	170	10 U	9.9 U	5	2,200	0.003 U	0.007	6 U	0.0033	0.0823	26
1994	0.12 U	0.12 U	3 U	---	---	---	9.9 U	10	3900	20 U	130	20 U	9.9 U	4	3,400	0.0059 U	0.015	3 U	0.059 U	0.06 U	13
1995	---	---	---	---	---	---	740 U	750 U	2300	9.9 U	67	10 U	490 U	500 U	1,600	0.003 U	0.003	3 U	0.012 U	0.012 U	26
1996	---	---	---	---	---	---	9.9 U	5	1300	9.9 U	47	50 U	9.9 U	1	1,100	---	---	---	---	---	---
1997	---	---	---	---	---	---	69 U	70 U	950	9.9 U	36	50 U	99 U	100 U	1,200	9.9 U	10 U	50 U	9.9 U	10 U	17
1998	---	---	---	---	---	---	0.39 U	1.6	470	0.99 U	21	3	0.69 U	0.7 U	700	---	---	---	---	---	---
1999	0.02 U	0.02 U	3 U	0.02 U	0.02 U	3 U	0.02 U	2.4	430	0.02 U	22	3 U	0.02 U	0.41	410	0.02 U	0.02 U	3 U	0.02 U	0.02 U	45
2000	---	---	---	---	---	---	0.02 U	2.8	69	0.02 U	470	1,900	0.02 U	0.48	68	---	---	---	---	---	---
2001	0.019 U	0.019 U	0.5 U	0.019 U	0.019 U	0.5 U	0.019 U	3.1	110	0.019 U	64	0.5 U	0.019 U	0.55	320	0.02 U	0.02 U	0.5 U	0.019 U	0.019 U	34
2002	---	---	---	---	---	---	0.02 U	1.1	19	0.02 U	36	3 U	0.02 U	0.52	160	---	---	---	---	---	---
2003	0.02 U	0.02 U	0.5 U	0.02 U	0.02 U	0.5 U	0.02 U	1.4	45	0.02 U	31	0.5 U	0.02 U	0.3	47	0.02 U	0.02 U	0.5 U	0.02 U	0.12	4
2004	---	---	---	---	---	---	0.02 U	1.8	4.6	0.02 U	21	0.96 U	0.02 U	0.34	78	---	---	---	---	---	---
2005	0.02 U	0.02 U	0.5 U	0.022 U	0.022 U	0.5 U	0.02 U	1.8	46	0.02 U	200	0.5 U	0.021 U	0.64	21	0.02 U	0.02 U	0.5 U	0.02 U	0.02 U	110
2006	0.004 U	0.0078 U	0.13 U	0.004 U	0.0088 U	0.13 U	0.004 U	1.7	17	0.004 U	140	0.13 U	0.1 U	0.26 U	13	0.004 U	0.008 U	0.13 U	0.004 U	5.2	66
2007	0.004 U	0.0065 U	0.13 U	0.004 U	0.0065 U	0.13 U	0.004 U	1	15	0.004 U	100	0.13 U	0.004 U	0.18 U	2.9	0.004 U	0.0065 U	0.13 U	0.004 U	0.01 U	15
2008	0.0034 U	0.041 U	0.080 U	0.0034 U	0.011 U	0.080 U	0.0034 U	0.90	23	0.0034 U	6.8 U	0.080 U	0.0034 U	0.31	0.080 U	0.0035 U	0.048 U	0.080 U	0.0034 U	0.023	7.8
2009	---	---	---	---	---	---	0.0026 U	0.91	12	0.0026 U	5.4	0.16 U	0.0025 U	0.15	0.16 U	---	---	---	---	---	---

--- No sample collected or analyzed.

a Estimated value, calculated using some or all values that are estimates.

U Value is non-detect at the method reporting limit.

Shaded cell indicates concentration above response action level (DWC).

BaP Eq - Benzo(a)pyrene equivalency calculated at ND = 1/2 DL.

Naph. - Naphthalene concentration

PCP - Pentachlorophenol concentration

s - Potential false positive value based on statistical analysis of blank sample data

**Table 13**  
**Water Quality Data Over Time**  
**OU1 - Treating Facility Area**  
**St. Regis Paper Company and City Dump Pit Sites**  
**(concentrations in ug/L)**

Base of Surficial Aquifer												Lower Aquifer									
Year	MW219			MW220			MW221			MW411			MW302			MW306			MW3		
	BaP Eq	Naph.	PCP	BaP Eq	Naph.	PCP	BaP Eq	Naph.	PCP	BaP Eq	Naph.	PCP	BaP Eq	Naph.	PCP	BaP Eq	Naph.	PCP	BaP Eq	Naph.	PCP
DWC	0.2	300	1	0.2	300	1	0.2	300	1	0.2	300	1	0.2	300	1	0.2	300	1	0.2	300	1
1986	0.023 U	0.071	6 U	---	---	---	---	---	---	---	---	---	0.0011	---	6 U	0.0011 U	---	6 U	---	---	---
1987	5.9 U	6 U	7.8	---	---	---	---	---	---	1.1 U	1.9 U	690	0.0011 U	0.012	6 U	0.0011 U	0.016	6 U	---	---	---
1988	5.9 U	6 U	6 U	---	---	---	---	---	---	---	---	---	0.027	0.049	6 U	0.0049	0.013	6 U	---	---	---
1989	0.045 U	0.69	16	---	---	---	---	---	---	---	---	---	0.0023 U	0.037	6 U	0.0011 U	0.0047	6 U	0.0011 U	0.0058	6 U
1990	9.9 U	10 U	10 U	---	---	---	---	---	---	---	---	---	0.0011 U	0.018	6 U	0.0011 U	0.003	6 U	0.0011 U	0.028	6 U
1991	9.9 U	10 U	10 U	---	---	---	---	---	---	---	---	---	0.003 U	0.037	6 U	0.003 U	0.32	6 U	0.003 U	0.0048	6 U
1992	9.9 U	10 U	10 U	---	---	---	---	---	---	---	---	---	0.0031	0.019	6 U	0.0059 U	0.008 U	6 U	0.003 U	0.019	6 U
1993	0.095 U	0.246	6 U	---	---	---	---	---	---	---	---	---	0.003 U	0.0095	6 U	0.003 U	0.0092	6 U	0.003 U	0.094	6 U
1994	0.35 U	0.276	3 U	3 U	363	1,000	0.0059 U	0.031	3 U	---	---	---	0.012 U	0.095	3 U	0.0072	0.01	3 U	0.0055	0.015	3 U
1995	0.44 U	0.45 U	3 U	200 U	200	570	0.003 U	0.003	3 U	---	---	---	0.003 U	0.016	3 U	0.003 U	0.007	3 U	0.003 U	0.017	3 U
1996	---	---	---	9.9 U	76	180	---	---	---	---	---	---	---	---	---	9.9 U	10 U	50 U	---	---	---
1997	9.9 U	10 U	50 U	39 U	48	200	9.9 U	10 U	50 U	---	---	---	9.9 U	10 U	50 U	9.9 U	10 U	50 U	9.9 U	10 U	50 U
1998	---	---	---	1.2 U	23	98	---	---	---	---	---	---	---	---	---	0.099 U	0.1 U	5 U	---	---	---
1999	0.02 U	0.14	3 U	0.02 U	11	72	0.02 U	0.02 U	3 U	0.02 U	0.03	350	0.02 U	0.02 U	3 U	0.02 U	0.04	3 U	0.02 U	0.02 U	3 U
2000	0.02 U	0.21	3 U	0.02 U	21	88	---	---	---	---	---	---	---	---	---	0.02 U	0.02 U	3 U	---	---	---
2001	0.02 U	0.22	0.5 U	0.019 U	18	24	0.02 U	0.02 U	0.5 U	0.02 U	0.02 U	14	0.02 U	0.02 U	0.5 U	0.02 U	0.02 U	0.5 U	0.02 U	0.02 U	0.5 U
2002	0.021 U	0.22	3.1 U	0.02 U	16	4.5	---	---	---	---	---	---	---	---	---	0.021 U	0.023	0.5 U	---	---	---
2003	0.02 U	0.11	0.5 U	0.02 U	7.4	51	0.02 U	0.02 U	0.5 U	0.02 U	0.02 U	12	0.02 U	0.042	0.5 U	0.02 U	0.031	0.5 U	0.02 U	0.02 U	0.5 U
2004	0.02 U	0.13	0.96 U	0.02 U	14	7.5	---	---	---	---	---	---	---	---	---	0.02 U	0.02 U	0.96 U	---	---	---
2005	0.02 U	0.12	0.5 U	0.02 U	16	9.6	0.02 U	0.02 U	0.5 U	0.023 U	0.18 U	17	0.02 U	0.02 U	0.5 U	0.021 U	0.021 U	0.5 U	0.021 U	0.021 U	0.5 U
2006	0.004 U	0.077 U	0.13 U	0.095 U	12	7.1	0.004 U	0.0065 U	0.13 U	0.004 U	0.021 U	31	0.004	0.029 U	0.14 U	0.004 U	0.034 U	0.19 U	0.004 U	0.0065 U	0.13 U
2007	0.004 U	0.067 U	0.13 U	0.0052 a	9.6	12	0.004 U	0.0065 U	0.13 U	0.004 U	0.039 U	11	0.004 U	0.035	0.13 U	0.004 U	0.011	0.13 U	0.004 U	0.024 U	0.013 U
2008	0.0035 U	0.055 U	0.080 U	0.0077 a	4.9	17	0.0034 U	0.013 U	0.080 U	0.0035 U	0.020 U	15	0.0035 U	0.041 U	0.080 U	0.0034 U	0.038 U	0.080 U	0.0034 U	0.027 U	0.080 U
2009	---	---	---	0.0044 a	5.2	11	---	---	---	---	---	---	---	---	---	0.0035 U	0.020 U	0.16 U	---	---	---

--- No sample collected or analyzed.

a Estimated value, calculated using some or all values that are estimates.

U Value is non-detect at the method reporting limit.

Shaded cell indicates concentration above response action level (DWC).

BaP Eq - Benzo(a)pyrene equivalency calculated at ND = 1/2 DL.

Naph. - Naphthalene concentration

PCP - Pentachlorophenol concentration

s - Potential false positive value based on statistical analysis of blank sample data

**Table 13**  
**Water Quality Data Over Time**  
**OU1 - Treating Facility Area**  
**St. Regis Paper Company and City Dump Pit Sites**  
**(concentrations in ug/L)**

Surface Water						
Year	CL-N			CL-S		
	BaP Eq	Naph.	PCP	BaP Eq	Naph.	PCP
SWQ			5.5			5.5
1986	0.001 U	s	5 U	0.001 U	s	5 U
1987	---	---	6 U	---	---	6 U
1988	---	---	10 U	---	---	10 U
1989	---	---	6 U	---	---	6 U
1990	0.001 U	0.0072	6 U	0.001 U	0.0076	6 U
1991	---	---	10 U	---	---	10 U
1992	---	---	10 U	---	---	10 U
1993	---	---	10 U	---	---	10 U
1994	---	---	7	---	---	75
1995	---	---	3 U	---	---	3 U
1996	---	---	50 U	---	---	50 U
1997	---	---	50 U	---	---	50 U
1998	---	---	5 U	---	---	5 U
1999	---	---	0.5 U	---	---	0.5 U
2000	---	---	0.5 U	---	---	2.2
2001	---	---	0.5 U	---	---	0.5 U
2002	---	---	0.5 U	---	---	0.5 U
2003	---	---	0.5 U	---	---	0.5 U
2004	---	---	0.5 U	---	---	0.5 U
2005	---	---	0.5 U	---	---	0.5 U
2006	---	---	0.13 U	---	---	0.13 U
2007	---	---	0.13 U	---	---	0.13 U
2008	---	---	0.080 U	---	---	0.080 U
2009	---	---	0.16 U	---	---	0.16 U

--- No sample collected or analyzed.

U Value is non-detect at the method reporting limit.

SWQ - Surface Water Criteria @ pH = 7.0

Shaded cell indicates concentration above response action level (SWQ).

BaP Eq - Benzo(a)pyrene equivalency calculated at ND = 1/2 DL.

Naph. - Naphthalene concentration

PCP - Pentachlorophenol concentration

s - Potential false positive value based on statistical analysis of blank sample data

**Table 14**  
**Groundwater Quality Data - Additional Parameters and Intervention Limits**  
**OU1 - Treating Facility Site**  
**St. Regis Paper Company Site**

		Sys Loc Code		W212		W212	W212	W213	W213	W213	W213	W213
		Sample Date		05/18/2009		08/25/2009	11/10/2009	02/18/2009	05/18/2009	05/19/2009	08/26/2009	11/11/2009
		Sample Type Code		N	FD	N	N	N	N	N	N	N
Chemical Name	Total or Dissolved	Analysis Location	Intervention Limits									
<b>Effective Date</b>												
<b>Exceedance Key</b>			<b>Bold</b>									
Total Petroleum Hydrocarbons												
Diesel Range Organics	NA	Lab	<b>200 ug/l</b>	< 63 ug/l	< 85 ug/l	--	< 35 ug/l	--	--	<b>460 ug/l</b>	--	< 120 ug/l
Diesel Range Organics-silica gel cleanup	NA	Lab	<b>200 ug/l</b>	--	--	< 35 ug/l	--	73 AT ug/l	--	--	<b>220 ug/l</b>	--
VOCs												
Benzene	NA	Lab	114 ug/l	< 0.045 ug/l	< 0.045 ug/l	< 0.040 ug/l	< 0.038 ug/l	0.10 j ug/l	--	0.12 j ug/l	< 0.16 ug/l	0.13 j ug/l
Ethyl benzene	NA	Lab	68 ug/l	< 0.042 ug/l	< 0.042 ug/l	< 0.050 ug/l	< 0.050 ug/l	0.51 ug/l	--	0.65 ug/l	< 0.65 ug/l	0.60 ug/l
Toluene	NA	Lab	253 ug/l	< 0.51 ug/l	< 0.54 ug/l	< 0.052 ug/l	0.060 j ug/l	< 0.76 ug/l	--	0.77 ug/l	< 0.43 ug/l	0.93 ug/l
Xylene m & p	NA	Lab	166 ug/l	< 0.078 ug/l	< 0.078 ug/l	< 0.091 ug/l	< 0.091 ug/l	0.28 j ug/l	--	0.38 j ug/l	< 0.40 ug/l	0.32 j ug/l
Xylene, o-	NA	Lab	166 ug/l	< 0.037 ug/l	< 0.037 ug/l	< 0.074 ug/l	< 0.074 ug/l	0.27 j ug/l	--	0.25 j ug/l	< 0.32 ug/l	0.25 j ug/l
SVOCs												
Pentachlorophenol	NA	Lab	<b>5.5 ug/l</b>	<b>12 ug/l</b>	<b>13 ug/l</b>	<b>12 ug/l</b>	<b>9.0 ug/l</b>	< 0.16 ug/l	--	< 0.16 ug/l	< 0.16 ug/l	< 0.16 ug/l
Anthracene	NA	Lab	<b>0.035 ug/l</b>	0.014 j ug/l	0.028 ug/l	0.022 ug/l	0.028 ug/l	<b>0.16 ug/l</b>	--	<b>0.31 ug/l</b>	<b>0.28 ug/l</b>	<b>0.31 ug/l</b>
1,6-Dinitropyrene	NA	Lab	--	--	--	--	--	--	--	--	--	--
1,8-Dinitropyrene	NA	Lab	--	--	--	--	--	--	--	--	--	--
1-Nitropyrene	NA	Lab	--	--	--	--	--	--	--	--	--	--
2-Nitrofluorene	NA	Lab	--	--	--	--	--	--	--	--	--	--
3-Methylcholanthrene	NA	Lab	--	--	--	--	--	--	--	--	--	--
5-Methylchrysene	NA	Lab	--	--	--	--	--	--	--	--	--	--
5-Nitroacenaphthene	NA	Lab	--	--	--	--	--	--	--	--	--	--
6-Nitrochrysene	NA	Lab	--	--	--	--	--	--	--	--	--	--
7,12-Dimethylbenz(a)anthracene	NA	Lab	--	--	--	--	--	--	--	--	--	--
7h-Dibenzo(c,g)carbazole	NA	Lab	--	--	--	--	--	--	--	--	--	--
Benzo[j]fluoranthene	NA	Lab	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)acridine	NA	Lab	--	--	--	--	--	--	--	--	--	--
Dibenz(a,j)acridine	NA	Lab	--	--	--	--	--	--	--	--	--	--
Dibenzo(a,e)pyrene	NA	Lab	--	--	--	--	--	--	--	--	--	--
Dibenzo(a,l)pyrene	NA	Lab	--	--	--	--	--	--	--	--	--	--
Dibenzo[a,h]pyrene	NA	Lab	--	--	--	--	--	--	--	--	--	--
Dibenzo[a,i]pyrene	NA	Lab	--	--	--	--	--	--	--	--	--	--

**Table 14**  
**Groundwater Quality Data - Additional Parameters and Intervention Limits**  
**OU1 - Treating Facility Site**  
**St. Regis Paper Company Site**

Sys Loc Code Sample Date Sample Type Code				W212		W212	W212	W213	W213	W213	W213	W213
				05/18/2009		08/25/2009	11/10/2009	02/18/2009	05/18/2009	05/19/2009	08/26/2009	11/11/2009
				N	FD	N	N	N	N	N	N	N
Chemical Name	Total or Dissolved	Analysis Location	Intervention Limits									
Effective Date												
Exceedance Key			<b>Bold</b>									
Chlorinated Dioxins / Furans												
2,3,7,8-Dioxin, tetra	NA	Lab	0.0038 pg/l	< 0.121 pg/l	< 1.15 pg/l	< 0.563 pg/l	< 0.599 pg/l	< 0.226 pg/l	< 5.70 pg/l	--	< 0.506 pg/l	< 0.820 pg/l
1,2,3,7,8-Dioxin penta	NA	Lab	0.0084 pg/l	< 0.209 pg/l	< 1.40 pg/l	< 0.715 pg/l	< 0.747 pg/l	< 0.187 pg/l	< 1.94 pg/l	--	< 0.670 pg/l	< 0.780 pg/l
1,2,3,4,7,8-Dioxin, hexa	NA	Lab	0.1267 pg/l	< 0.217 pg/l	< 0.826 pg/l	< 1.02 pg/l	< 0.710 pg/l	< 0.178 pg/l	< 1.40 pg/l	--	< 0.988 pg/l	< 0.813 pg/l
1,2,3,6,7,8-Dioxin, hexa	NA	Lab	0.38 pg/l	< 0.192 pg/l	< 0.710 pg/l	< 0.970 pg/l	< 0.644 pg/l	< 0.159 pg/l	< 1.21 pg/l	--	< 0.946 pg/l	< 0.737 pg/l
1,2,3,7,8,9-Dioxin, hexa	NA	Lab	0.38 pg/l	< 0.210 pg/l	< 0.795 pg/l	< 1.05 pg/l	< 0.682 pg/l	< 0.172 pg/l	< 1.35 pg/l	--	< 1.02 pg/l	< 0.780 pg/l
1,2,3,4,6,7,8-Dioxin, hepta	NA	Lab	<b>7.6 pg/l</b>	3.55 EMPC pg/l	2.66 j pg/l	< 1.34 pg/l	< 0.625 pg/l	< 10.2 pg/l	2.21 EMPC pg/l	--	< 3.61 pg/l	<b>10.6 j pg/l</b>
Dioxin octa	NA	Lab	380 pg/l	< 40.5 pg/l	< 12.7 pg/l	< 5.38 pg/l	< 8.53 pg/l	124 pg/l	< 22.3 pg/l	--	< 23.8 pg/l	116 pg/l
2,3,7,8-Dibenzofuran, tetra	NA	Lab	0.0475 pg/l	< 0.296 pg/l	< 1.36 pg/l	< 0.843 pg/l	< 0.621 pg/l	< 0.415 pg/l	< 8.77 pg/l	--	< 0.650 pg/l	< 0.875 pg/l
1,2,3,7,8-Dibenzofuran, penta	NA	Lab	0.38 pg/l	< 0.119 pg/l	< 0.799 pg/l	< 0.703 pg/l	< 0.693 pg/l	< 0.221 pg/l	< 1.41 pg/l	--	< 0.681 pg/l	< 0.586 pg/l
2,3,4,7,8-Dibenzofuran, penta	NA	Lab	0.00475 pg/l	< 0.117 pg/l	< 0.813 pg/l	< 0.691 pg/l	< 0.686 pg/l	< 0.218 pg/l	< 1.43 pg/l	--	< 0.669 pg/l	< 0.580 pg/l
1,2,3,4,7,8-Dibenzofuran, hexa	NA	Lab	0.475 pg/l	< 0.226 pg/l	< 0.673 pg/l	< 0.579 pg/l	< 0.432 pg/l	< 0.140 pg/l	< 0.656 pg/l	--	< 0.691 pg/l	< 0.546 pg/l
1,2,3,6,7,8-Dibenzofuran, hexa	NA	Lab	0.19 pg/l	< 0.218 pg/l	< 0.651 pg/l	< 0.574 pg/l	< 0.414 pg/l	< 0.134 pg/l	< 0.633 pg/l	--	< 0.685 pg/l	< 0.522 pg/l
1,2,3,7,8,9-Dibenzofuran, hexa	NA	Lab	0.0633 pg/l	< 0.284 pg/l	< 0.937 pg/l	< 0.774 pg/l	< 0.555 pg/l	< 0.174 pg/l	< 0.912 pg/l	--	< 0.924 pg/l	< 0.700 pg/l
2,3,4,6,7,8-Dibenzofuran, hexa	NA	Lab	0.0543 pg/l	< 0.243 pg/l	< 0.743 pg/l	< 0.637 pg/l	< 0.473 pg/l	< 0.150 pg/l	< 0.723 pg/l	--	< 0.760 pg/l	< 0.597 pg/l
1,2,3,4,6,7,8-Dibenzofuran, hepta	NA	Lab	38 pg/l	0.608 j pg/l	< 0.508 pg/l	< 1.19 pg/l	< 0.541 pg/l	< 2.05 pg/l	< 0.674 pg/l	--	< 1.43 pg/l	2.32 j pg/l
1,2,3,4,7,8,9-Dibenzofuran, hepta	NA	Lab	0.95 pg/l	< 0.257 pg/l	< 0.737 pg/l	< 1.69 pg/l	< 0.752 pg/l	< 0.182 pg/l	< 0.978 pg/l	--	< 2.02 pg/l	< 0.800 pg/l
Dibenzofuran octa	NA	Lab	190 pg/l	2.62 EMPC pg/l	< 1.03 pg/l	< 2.06 pg/l	< 1.04 pg/l	< 12.3 pg/l	2.34 EMPC pg/l	--	< 2.39 pg/l	11.8 j pg/l

**Table 14**  
**Groundwater Quality Data - Additional Parameters and Intervention Limits**  
**OU1 - Treating Facility Site**  
**St. Regis Paper Company Site**

Sys Loc Code				W215		W215	W220	W220		W220	W220
Sample Date				05/18/2009		05/19/2009	02/17/2009	05/18/2009		08/25/2009	11/11/2009
Sample Type Code				N	FD	N	N	N	FD	N	N
Chemical Name	Total or Dissolved	Analysis Location	Intervention Limits								
<b>Effective Date</b>											
<b>Exceedance Key</b>			<b>Bold</b>								
Total Petroleum Hydrocarbons											
Diesel Range Organics	NA	Lab	<b>200 ug/l</b>	--	--	--	--	< 110 ug/l	< 120 ug/l	--	< 42 ug/l
Diesel Range Organics-silica gel cleanup	NA	Lab	<b>200 ug/l</b>	--	--	--	36 j ug/l	--	--	< 31 ug/l	--
VOCs											
Benzene	NA	Lab	114 ug/l	--	--	--	< 0.045 ug/l	0.05 j ug/l	0.05 j ug/l	< 0.040 ug/l	< 0.038 ug/l
Ethyl benzene	NA	Lab	68 ug/l	--	--	--	0.11 j ug/l	0.14 j ug/l	0.15 j ug/l	< 0.13 ug/l	0.12 j ug/l
Toluene	NA	Lab	253 ug/l	--	--	--	< 0.19 ug/l	< 0.7 ug/l	< 0.59 ug/l	< 0.11 ug/l	0.14 j ug/l
Xylene m & p	NA	Lab	166 ug/l	--	--	--	0.090 j ug/l	< 0.08 ug/l	< 0.09 ug/l	< 0.091 ug/l	< 0.091 ug/l
Xylene, o-	NA	Lab	166 ug/l	--	--	--	0.060 j ug/l	0.06 j ug/l	0.07 j ug/l	< 0.074 ug/l	< 0.074 ug/l
SVOCs											
Pentachlorophenol	NA	Lab	<b>5.5 ug/l</b>	--	--	< 0.16 ug/l	<b>11 ug/l</b>	<b>5.5 ug/l</b>	<b>5.6 ug/l</b>	2.2 ug/l	1.0 ug/l
Anthracene	NA	Lab	<b>0.035 ug/l</b>	--	--	0.035 ug/l	<b>0.061 ug/l</b>	<b>0.1 ug/l</b>	<b>0.096 ug/l</b>	<b>0.062 ug/l</b>	<b>0.092 ug/l</b>
1,6-Dinitropyrene	NA	Lab		< 0.0018 ug/l	< 0.0018 ug/l	--	--	< 0.0018 ug/l	--	--	--
1,8-Dinitropyrene	NA	Lab		< 0.0036 ug/l	< 0.0036 ug/l	--	--	< 0.0036 ug/l	--	--	--
1-Nitropyrene	NA	Lab		< 0.0023 ug/l	< 0.0023 ug/l	--	--	< 0.0023 ug/l	--	--	--
2-Nitrofluorene	NA	Lab		< 0.00098 ug/l	< 0.00098 ug/l	--	--	< 0.00098 ug/l	--	--	--
3-Methylcholanthrene	NA	Lab		< 0.0022 ug/l	< 0.0022 ug/l	--	--	< 0.0022 ug/l	--	--	--
5-Methylchrysene	NA	Lab		< 0.00066 ug/l	< 0.00066 ug/l	--	--	< 0.00066 ug/l	--	--	--
5-Nitroacenaphthene	NA	Lab		< 0.0012 ug/l	< 0.0012 ug/l	--	--	< 0.0012 ug/l	--	--	--
6-Nitrochrysene	NA	Lab		< 0.0014 ug/l	< 0.0014 ug/l	--	--	< 0.0014 ug/l	--	--	--
7,12-Dimethylbenz(a)anthracene	NA	Lab		< 0.0014 ug/l	< 0.0014 ug/l	--	--	< 0.0014 ug/l	--	--	--
7h-Dibenzo(c,g)carbazole	NA	Lab		< 0.00085 ug/l	0.01 j ug/l	--	--	< 0.00085 ug/l	--	--	--
Benzo[j]fluoranthene	NA	Lab		< 0.0029 ug/l	< 0.0029 ug/l	--	--	< 0.0029 ug/l	--	--	--
Dibenz(a,h)acridine	NA	Lab		< 0.00075 ug/l	< 0.00075 ug/l	--	--	< 0.00075 ug/l	--	--	--
Dibenz(a,j)acridine	NA	Lab		< 0.0013 ug/l	< 0.0013 ug/l	--	--	< 0.0013 ug/l	--	--	--
Dibenzo(a,e)pyrene	NA	Lab		< 0.00047 ug/l	< 0.00047 ug/l	--	--	< 0.00047 ug/l	--	--	--
Dibenzo(a,i)pyrene	NA	Lab		< 0.00099 ug/l	< 0.00099 ug/l	--	--	< 0.00099 ug/l	--	--	--
Dibenzo[a,h]pyrene	NA	Lab		< 0.0010 ug/l	< 0.0010 ug/l	--	--	< 0.0010 ug/l	--	--	--
Dibenzo[a,i]pyrene	NA	Lab		< 0.00077 ug/l	< 0.00077 ug/l	--	--	< 0.00077 ug/l	--	--	--

**Table 14**  
**Groundwater Quality Data - Additional Parameters and Intervention Limits**  
**OU1 - Treating Facility Site**  
**St. Regis Paper Company Site**

Sys Loc Code				W215		W215	W220	W220		W220	W220
Sample Date				05/18/2009		05/19/2009	02/17/2009	05/18/2009		08/25/2009	11/11/2009
Sample Type Code				N	FD	N	N	N	FD	N	N
Chemical Name	Total or Dissolved	Analysis Location	Intervention Limits								
<b>Effective Date</b>											
<b>Exceedance Key</b>			<b>Bold</b>								
Chlorinated Dioxins / Furans											
2,3,7,8-Dioxin, tetra	NA	Lab	0.0038 pg/l	--	--	--	< 0.226 pg/l	< 0.370 pg/l	< 0.140 pg/l	< 0.831 pg/l	< 0.683 pg/l
1,2,3,7,8-Dioxin penta	NA	Lab	0.0084 pg/l	--	--	--	< 0.184 pg/l	< 0.267 pg/l	< 0.258 pg/l	< 0.842 pg/l	< 0.705 pg/l
1,2,3,4,7,8-Dioxin, hexa	NA	Lab	0.1267 pg/l	--	--	--	< 0.163 pg/l	< 0.300 pg/l	< 0.137 pg/l	< 1.22 pg/l	< 0.735 pg/l
1,2,3,6,7,8-Dioxin, hexa	NA	Lab	0.38 pg/l	--	--	--	< 0.144 pg/l	< 0.266 pg/l	< 0.122 pg/l	< 1.17 pg/l	< 0.667 pg/l
1,2,3,7,8,9-Dioxin, hexa	NA	Lab	0.38 pg/l	--	--	--	< 0.157 pg/l	< 0.290 pg/l	< 0.132 pg/l	< 1.26 pg/l	< 0.706 pg/l
1,2,3,4,6,7,8-Dioxin, hepta	NA	Lab	<b>7.6 pg/l</b>	--	--	--	< 1.37 pg/l	0.967 EMPC pg/l	1.15 j pg/l	< 1.51 pg/l	< 0.572 pg/l
Dioxin octa	NA	Lab	380 pg/l	--	--	--	< 9.89 pg/l	< 6.58 pg/l	< 8.30 pg/l	< 6.86 pg/l	< 5.43 pg/l
2,3,7,8-Dibenzofuran, tetra	NA	Lab	0.0475 pg/l	--	--	--	< 0.704 pg/l	< 0.180 pg/l	< 0.227 pg/l	< 1.02 pg/l	< 0.832 pg/l
1,2,3,7,8-Dibenzofuran, penta	NA	Lab	0.38 pg/l	--	--	--	< 0.183 pg/l	< 0.257 pg/l	< 0.225 pg/l	< 0.685 pg/l	< 0.670 pg/l
2,3,4,7,8-Dibenzofuran, penta	NA	Lab	0.00475 pg/l	--	--	--	< 0.181 pg/l	< 0.255 pg/l	< 0.223 pg/l	< 0.673 pg/l	< 0.663 pg/l
1,2,3,4,7,8-Dibenzofuran, hexa	NA	Lab	0.475 pg/l	--	--	--	< 0.0991 pg/l	< 0.330 pg/l	< 0.157 pg/l	< 2.44 pg/l	< 0.356 pg/l
1,2,3,6,7,8-Dibenzofuran, hexa	NA	Lab	0.19 pg/l	--	--	--	< 0.0945 pg/l	< 0.316 pg/l	< 0.151 pg/l	< 0.826 pg/l	< 0.340 pg/l
1,2,3,7,8,9-Dibenzofuran, hexa	NA	Lab	0.0633 pg/l	--	--	--	< 0.124 pg/l	< 0.413 pg/l	< 0.197 pg/l	< 1.12 pg/l	< 0.456 pg/l
2,3,4,6,7,8-Dibenzofuran, hexa	NA	Lab	0.0543 pg/l	--	--	--	< 0.106 pg/l	< 0.353 pg/l	< 0.169 pg/l	< 0.918 pg/l	< 0.390 pg/l
1,2,3,4,6,7,8-Dibenzofuran, hepta	NA	Lab	38 pg/l	--	--	--	< 0.0945 pg/l	< 0.289 pg/l	< 0.195 pg/l	< 1.57 pg/l	< 0.521 pg/l
1,2,3,4,7,8,9-Dibenzofuran, hepta	NA	Lab	0.95 pg/l	--	--	--	< 0.129 pg/l	< 0.393 pg/l	< 0.266 pg/l	< 2.23 pg/l	< 0.725 pg/l
Dibenzofuran octa	NA	Lab	190 pg/l	--	--	--	< 1.80 pg/l	< 0.297 pg/l	< 0.255 pg/l	< 1.97 pg/l	< 1.44 pg/l

**Table 15**  
**Groundwater Quality Data - Surficial Aquifer**  
**OU2 - Containment Vault Area**  
**St. Regis Paper Company Site**

Sys Loc Code				W124	W125	W126	W127	W128	W129	W130
Sample Date				05/11/2009	05/10/2009	05/10/2009	05/11/2009	05/11/2009	05/11/2009	05/10/2009
Sample Type Code				N	N	N	N	N	N	N
Chemical Name	Total or Dissolved	Analysis Location	Drinking Water Criteria							
<b>Effective Date</b>										
<b>Exceedance Key</b>			No Exceed							
Benzo(a)anthracene	NA	Lab		< 0.0026 ug/l						
Chrysene	NA	Lab		< 0.0034 ug/l						
Benzo(b)fluoranthene	NA	Lab		< 0.0023 ug/l						
Benzo(k)fluoranthene	NA	Lab		< 0.0025 ug/l						
Benzo(a)pyrene	NA	Lab		< 0.0043 ug/l						
Indeno(1,2,3-cd)pyrene	NA	Lab		< 0.0026 ug/l						
Dibenz(a,h)anthracene	NA	Lab		< 0.0025 ug/l						
BaP equivalent, non-detects at half of the detection limit. <sup>1</sup>	NA	Lab	0.2 ug/l	<0.0034 ug/l	<0.0034 ug/l	<0.0034 ug/l	<0.0034 ug/l	<0.0034 ug/l	<0.0034 ug/l	<0.0034 ug/l
BaP equivalent, non-detects at zero for the detection limit. <sup>2</sup>	NA	Lab	0.2 ug/l	ND ug/l	ND ug/l	ND ug/l	ND ug/l	ND ug/l	ND ug/l	ND ug/l
2-Methylnaphthalene	NA	Lab		0.025 ug/l	0.025 ug/l	0.026 ug/l	0.013 j ug/l	0.0067 j ug/l	0.0076 j ug/l	0.040 ug/l
Acenaphthene	NA	Lab	400 ug/l	0.0071 j ug/l	0.0080 j ug/l	0.0063 j ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	0.016 j ug/l
Acenaphthylene	NA	Lab		< 0.0034 ug/l						
Anthracene	NA	Lab	2000 ug/l	< 0.0036 ug/l	0.012 j ug/l	0.0098 j ug/l	0.0071 j ug/l	0.020 ug/l	0.015 j ug/l	0.0044 j ug/l
Benzo(g,h,i)perylene	NA	Lab		< 0.0029 ug/l						
Fluoranthene	NA	Lab	300 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l
Fluorene	NA	Lab	300 ug/l	0.0038 j ug/l	0.0042 j ug/l	< 0.0038 ug/l	< 0.0038 ug/l	< 0.0038 ug/l	< 0.0038 ug/l	0.0091 j ug/l
Naphthalene	NA	Lab	300 ug/l	0.080 ug/l	0.075 ug/l	0.072 ug/l	0.042 ug/l	< 0.028 ug/l	0.033 ug/l	0.11 ug/l
Phenanthrene	NA	Lab		0.0052 j ug/l	< 0.0050 ug/l	< 0.0085 ug/l				
Pyrene	NA	Lab	200 ug/l	< 0.0035 ug/l	< 0.0035 ug/l	< 0.0035 ug/l	< 0.0035 ug/l	< 0.0035 ug/l	< 0.0035 ug/l	< 0.0035 ug/l
Pentachlorophenol	NA	Lab	1 ug/l	< 0.16 ug/l	< 0.16 ug/l	< 0.16 ug/l	< 0.16 ug/l	< 0.16 ug/l	< 0.16 ug/l	< 0.16 ug/l

**Table 16**  
**Groundwater Quality Data - Lower Aquifer**  
**OU2 - Containment Vault Area**  
**St. Regis Paper Company Site**

				Sys Loc Code	W324	W329	W330
				Sample Date	11/12/2009	11/12/2009	11/12/2009
				Sample Type Code	N	N	N
Chemical Name	Total or Dissolved	Analysis Location	Drinking Water Criteria				
<b>Effective Date</b>							
<b>Exceedance Key</b>			No Exceed				
Benzo(a)anthracene	NA	Lab		0.0026 j ug/l	< 0.0026 ug/l	< 0.0026 ug/l	
Chrysene	NA	Lab		< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	
Benzo(b)fluoranthene	NA	Lab		< 0.0023 ug/l	< 0.0023 ug/l	< 0.0023 ug/l	
Benzo(k)fluoranthene	NA	Lab		< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l	
Benzo(a)pyrene	NA	Lab		< 0.0043 ug/l	< 0.0043 ug/l	< 0.0043 ug/l	
Indeno(1,2,3-cd)pyrene	NA	Lab		< 0.0026 ug/l	< 0.0026 ug/l	< 0.0026 ug/l	
Dibenz(a,h)anthracene	NA	Lab		< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l	
BaP equivalent, non-detects at half of the detection limit. <sup>1</sup>	NA	Lab	0.2 ug/l	0.0035 a ug/l	<0.0034 ug/l	<0.0034 ug/l	
BaP equivalent, non-detects at zero for the detection limit. <sup>2</sup>	NA	Lab	0.2 ug/l	0.0003 a ug/l	ND ug/l	ND ug/l	
2-Methylnaphthalene	NA	Lab		0.023 ug/l	0.013 j ug/l	0.019 j ug/l	
Acenaphthene	NA	Lab	400 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	
Acenaphthylene	NA	Lab		< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	
Anthracene	NA	Lab	2000 ug/l	< 0.0036 ug/l	< 0.0036 ug/l	0.0045 j ug/l	
Benzo(g,h,i)perylene	NA	Lab		< 0.0029 ug/l	< 0.0029 ug/l	< 0.0029 ug/l	
Fluoranthene	NA	Lab	300 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	
Fluorene	NA	Lab	300 ug/l	< 0.0038 ug/l	0.0074 j ug/l	< 0.0038 ug/l	
Naphthalene	NA	Lab	300 ug/l	0.030 ug/l	0.032 ug/l	0.048 ug/l	
Phenanthrene	NA	Lab		0.0091 j ug/l	0.016 j ug/l	0.0062 j ug/l	
Pyrene	NA	Lab	200 ug/l	0.011 j ug/l	< 0.0035 ug/l	< 0.0035 ug/l	
Pentachlorophenol	NA	Lab	1 ug/l	< 0.16 ug/l	< 0.16 ug/l	< 0.16 ug/l	

**Table 17**  
**Groundwater Quality Data Over Time**  
**OU2 - Containment Vault Area**  
**St. Regis Paper Company and City Dump Pit Sites**

(concentrations in ug/L)

Surficial Aquifer																					
Year	MW124			MW125			MW126			MW127			MW128			MW129			MW130		
	BaP Eq	Naph.	PCP																		
1987	0.0011 U	0.0073	6 U	0.0011 U	0.0068	6 U	0.0013 U	0.0078	6 U	0.0011 U	0.0065	6 U	0.0011 U	0.0077	6 U	---	---	---	---	---	---
1988	0.0023 U	0.028	6 U	0.0011 U	0.0034	6 U	0.0011 U	0.0029	6 U	0.0011 U	0.0039	6 U	0.0011 U	0.0027	6 U	---	---	---	---	---	---
1989	0.0011 U	0.0048	6 U	0.0011 U	0.0047	6 U	0.0011 U	0.0062	6 U	0.0011 U	0.0032	6 U	0.0011 U	0.0028	6 U	---	---	---	---	---	---
1990	0.0011 U	0.0047	6 U	0.0023 U	0.0038 U	6 U	0.0011 U	0.0029	6 U	0.0011 U	0.0032	6 U	0.0011 U	0.0035	6 U	---	---	---	---	---	---
1991	0.003 U	0.004 U	6 U	0.003 U	0.004 U	6 U	0.003 U	0.004 U	6 U	0.003 U	0.004	6 U	0.003 U	0.004 U	6 U	---	---	---	---	---	---
1992	0.003 U	0.004 U	6 U	0.003 U	0.004 U	6 U	0.003 U	0.004 U	6 U	0.003 U	0.004 U	6 U	0.003 U	0.004 U	6 U	0.003 U	0.0056	6 U	0.003 U	0.004 U	6 U
1993	0.003 U	0.004 U	6 U	0.003 U	0.0047	6 U	0.003 U	0.00436	6 U	---	---	---	0.003 U	0.00414	6 U	0.003 U	0.003 U	6 U	0.0059 U	0.008 U	6 U
1994	0.003 U	0.004	3 U	0.003 U	0.004	3 U	0.003 U	0.005	3 U	---	---	---	0.003 U	0.018	3 U	0.003 U	0.003	3 U	0.003 U	0.004	3 U
1995	0.003 U	0.003 U	3 U	0.003 U	0.004	3 U	0.003 U	0.009	3 U	---	---	---	0.003 U	0.003	3 U	0.003 U	0.003	3 U	0.003 U	0.003	3 U
1996	9.9 U	10 U	3 U	9.9 U	10 U	50 U	9.9 U	10 U	50 U	---	---	---	9.9 U	10 U	50 U	9.9 U	10 U	50 U	9.9 U	10 U	50 U
1997	9.9 U	10 U	50 U	9.9 U	10 U	50 U	9.9 U	10 U	50 U	---	---	---	9.9 U	10 U	50 U	9.9 U	10 U	50 U	9.9 U	10 U	50 U
1998	0.099 U	0.1 U	0.5 U	0.099 U	0.1 U	0.5 U	0.099 U	0.1 U	5 U	---	---	---	0.0099 U	0.1 U	0.5 U	0.099 U	0.1 U	0.5 U	0.099 U	0.1 U	5 U
1999	0.02 U	0.02 U	3 U	0.02 U	0.02 U	3 U	0.02 U	0.02 U	---	0.02 U	0.02 U	3 U	0.02 U	0.02 U	3 U	0.02 U	0.02 U	3 U	0.02 U	0.02 U	3 U
2000	0.02 U	0.02 U	3 U	0.02 U	0.02 U	3 U	0.02 U	0.02 U	3 U	0.02 U	0.02 U	3 U	0.02 U	0.02 U	3 U	0.02 U	0.02 U	3 U	0.02 U	0.02 U	3 U
2001	0.019 U	0.019 U	0.5 U	0.02 U	0.02 U	0.5 U	0.02 U	0.02 U	0.5 U	0.02 U	0.02 U	0.5 U	0.02 U	0.02 U	0.5 U	0.019 U	0.019 U	0.5 U	0.02 U	0.02 U	0.5 U
2002	0.021 U	0.021 U	3.1 U	0.02 U	0.02 U	3 U	0.02 U	0.02 U	2.9 U	0.02 U	0.02 U	2.9 U	0.02 U	0.02 U	3 U	0.021 U	0.021 U	3.1 U	0.02 U	0.02 U	3 U
2003	0.02 U	0.021	0.5 U	0.02 U	0.02 U	0.5 U	0.02 U	0.02 U	0.5 U	0.02 U	0.02 U	0.5 U	0.02 U	0.02 U	0.5 U	0.02 U	0.02 U	0.5 U	0.02 U	0.02 U	0.5 U
2004	0.02 U	0.02 U	0.96 U	0.02 U	0.02 U	0.96 U	0.02 U	0.02 U	0.096 U	0.02 U	0.02 U	0.97 U	0.02 U	0.02 U	0.98 U	0.02 U	0.02 U	0.99 U	0.02 U	0.02 U	0.98 U
2005	0.021 U	0.021 U	0.5 U	0.21 U	0.021 U	0.5 U	0.021 U	0.021 U	0.5 U	0.022 U	0.022 U	0.5 U	0.02 U	0.022 U	0.5 U	0.021 U	0.021 U	0.5 U	0.022 U	0.022 U	0.5 U
2006	0.004 U	0.0081 J	0.13 U	0.004	0.0065 U	0.13 U	0.004 U	0.0023 U	0.13 U	0.004 U	0.0065 U	0.13 U	0.004 U	0.0065 U	0.13 U	0.004 U	0.01 J	0.13 U	0.0043 U	0.0078 J	0.13 U
2007	0.004 U	0.0074 U	0.13 U	0.004 U	0.0065 U	0.13 U	0.0042 U	0.0068 U	0.13 U	0.0034 U	0.0042 U	0.08 U	0.0041 U	0.0066 U	0.13 U	0.0041 U	0.0066 U	0.13 U	0.0042 U	0.0088 U	0.13 U
2008	0.0034 U	0.059 U	0.080 U	0.0034 U	0.040 U	0.080 U	0.0035 U	0.077 U	0.080 U	0.0034 U	0.049 U	0.080 U	0.0034 U	0.092 U	0.080 U	0.0034 U	0.027 U	0.080 U	0.0036 U	0.086 U	0.080 U
2009	0.0034 U	0.080	0.16 U	0.0034 U	0.075	0.16 U	0.0034 U	0.072	0.16 U	0.0034 U	0.042	0.16 U	0.0034 U	0.028 U	0.16 U	0.0034 U	0.033	0.16 U	0.0034 U	0.11	0.16 U

--- No sample collected or analyzed.

a Estimated value, calculated using some or all values that are estimates.

U Value is non-detect at the method reporting limit.

BaP Eq - Benzo(a)pyrene equivalency calculated at ND = 1/2 DL.

Naph. - Naphthalene concentration

PCP - Pentachlorophenol concentration

**Table 18**  
**Groundwater Quality Data - Surficial Aquifer**  
**OU3 - City Dump Area**  
**St. Regis Paper Company Site**

		Sys Loc Code		W2106		W2127	W2128	W2128	W2128	W2129	W2135	W2140
		Sample Date		05/19/2009		05/14/2009	05/19/2009	08/25/2009	11/10/2009	05/16/2009	05/13/2009	05/17/2009
		Sample Type Code		N	FD	N	N	N	N	N	N	N
Chemical Name	Total or Dissolved	Analysis Location	Drinking Water Criteria									
Effective Date												
Exceedance Key			<b>Bold</b>									
Benzo(a)anthracene	NA	Lab		< 0.60 ug/l	< 0.60 ug/l	< 0.0027 ug/l	< 0.0027 ug/l	< 0.0030 ug/l	< 0.0026 ug/l	< 0.003 ug/l	< 0.0027 ug/l	< 0.0026 ug/l
Chrysene	NA	Lab		< 0.79 ug/l	< 0.79 ug/l	< 0.0035 ug/l	< 0.0036 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0035 ug/l	< 0.0034 ug/l
Benzo(b)fluoranthene	NA	Lab		< 0.59 ug/l	< 0.59 ug/l	< 0.0024 ug/l	< 0.0024 ug/l	< 0.0023 ug/l	< 0.0023 ug/l	< 0.0023 ug/l	< 0.0024 ug/l	< 0.0023 ug/l
Benzo(k)fluoranthene	NA	Lab		< 0.83 ug/l	< 0.83 ug/l	< 0.0026 ug/l	< 0.0026 ug/l	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0026 ug/l	< 0.0025 ug/l
Benzo(a)pyrene	NA	Lab		< 0.66 ug/l	< 0.66 ug/l	< 0.0044 ug/l	< 0.0045 ug/l	< 0.0043 ug/l	< 0.0043 ug/l	< 0.0043 ug/l	< 0.0044 ug/l	< 0.0043 ug/l
Indeno(1,2,3-cd)pyrene	NA	Lab		< 0.69 ug/l	< 0.69 ug/l	< 0.0027 ug/l	< 0.0027 ug/l	< 0.0026 ug/l	< 0.0026 ug/l	< 0.0026 ug/l	< 0.0027 ug/l	< 0.0026 ug/l
Dibenz(a,h)anthracene	NA	Lab		< 0.76 ug/l	< 0.76 ug/l	< 0.0026 ug/l	< 0.0026 ug/l	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0026 ug/l	< 0.0025 ug/l
BaP equivalent, non-detects at half of the detection limit. <sup>1</sup>	NA	Lab	0.2 ug/l	<0.68 ug/l	<0.68 ug/l	<0.0035 ug/l	<0.0035 ug/l	<0.0034 ug/l	<0.0034 ug/l	<0.0034 ug/l	<0.0035 ug/l	<0.0034 ug/l
BaP equivalent, non-detects at zero for the detection limit. <sup>2</sup>	NA	Lab	0.2 ug/l	ND ug/l	ND ug/l	ND ug/l	ND ug/l	ND ug/l	ND ug/l	ND ug/l	ND ug/l	ND ug/l
2-Methylnaphthalene	NA	Lab		10 j ug/l	2.3 j ug/l	< 0.0024 ug/l	0.35 ug/l	0.21 ug/l	0.35 ug/l	< 0.0023 ug/l	< 0.0024 ug/l	25 ug/l
Acenaphthene	NA	Lab	400 ug/l	82 ug/l	80 ug/l	< 0.0045 ug/l	0.51 ug/l	0.50 ug/l	0.50 ug/l	< 0.0044 ug/l	< 0.0045 ug/l	4 ug/l
Acenaphthylene	NA	Lab		4.2 j ug/l	3.5 j ug/l	< 0.0035 ug/l	< 0.0067 ug/l	0.0073 j ug/l	0.0067 j ug/l	< 0.0034 ug/l	< 0.0035 ug/l	0.14 j ug/l
Anthracene	NA	Lab	2000 ug/l	5.0 j ug/l	4.7 j ug/l	< 0.0037 ug/l	< 0.0038 ug/l	0.0051 j ug/l	0.0049 j ug/l	< 0.0036 ug/l	< 0.0037 ug/l	0.81 ug/l
Benzo(g,h,i)perylene	NA	Lab		< 0.82 ug/l	< 0.82 ug/l	< 0.0030 ug/l	< 0.0030 ug/l	< 0.0029 ug/l	< 0.0029 ug/l	< 0.0029 ug/l	< 0.0030 ug/l	< 0.0029 ug/l
Fluoranthene	NA	Lab	300 ug/l	< 0.66 ug/l	< 0.66 ug/l	< 0.0045 ug/l	< 0.0046 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0045 ug/l	< 0.044 ug/l
Fluorene	NA	Lab	300 ug/l	44 ug/l	39 ug/l	< 0.0039 ug/l	0.058 ug/l	0.048 ug/l	0.053 ug/l	< 0.0038 ug/l	< 0.0039 ug/l	1.7 ug/l
Naphthalene	NA	Lab	300 ug/l	11 ug/l	2.2 j ug/l	< 0.0061 ug/l	4.2 ug/l	1.8 ug/l	4.9 ug/l	< 0.011 ug/l	< 0.0049 ug/l	210 ug/l
Phenanthrene	NA	Lab		16 ug/l	14 ug/l	< 0.0051 ug/l	< 0.0052 ug/l	< 0.0072 ug/l	< 0.0050 ug/l	< 0.0050 ug/l	< 0.0051 ug/l	0.14 j ug/l
Pyrene	NA	Lab	200 ug/l	< 0.74 ug/l	< 0.74 ug/l	< 0.0036 ug/l	< 0.0037 ug/l	< 0.0035 ug/l	< 0.0035 ug/l	< 0.0035 ug/l	< 0.0036 ug/l	< 0.0035 ug/l
Pentachlorophenol	NA	Lab	<b>1 ug/l</b>	<b>11000 ug/l</b>	<b>9900 ug/l</b>	< 0.16 ug/l	<b>5.6 ug/l</b>	<b>5.0 ug/l</b>	<b>5.0 ug/l</b>	< 0.16 ug/l	< 0.16 ug/l	<b>2700 ug/l</b>

**Table 18**  
**Groundwater Quality Data - Surficial Aquifer**  
**OU3 - City Dump Area**  
**St. Regis Paper Company Site**

Sys Loc Code				W2106	W2128	W2128	W2128	W2140
Sample Date				05/19/2009	05/19/2009	08/25/2009	11/10/2009	05/17/2009
Sample Type Code				N	N	N	N	N
Chemical Name	Total or Dissolved	Analysis Location	Drinking Water Criteria					
<b>Effective Date</b>								
<b>Exceedance Key</b>			No Exceed					
2,3,7,8-Dioxin, tetra	NA	Lab		< 0.0856 pg/l	< 2.94 pg/l	< 0.831 pg/l	< 0.586 pg/l	< 3.26 pg/l
1,2,3,7,8-Dioxin penta	NA	Lab		< 0.118 pg/l	< 1.96 pg/l	< 1.18 pg/l	< 0.591 pg/l	< 2.97 pg/l
1,2,3,4,7,8-Dioxin, hexa	NA	Lab		< 0.202 pg/l	< 1.37 pg/l	< 0.998 pg/l	< 0.734 pg/l	< 1.63 pg/l
1,2,3,6,7,8-Dioxin, hexa	NA	Lab		1.97 EMPC pg/l	< 1.18 pg/l	< 0.860 pg/l	< 0.666 pg/l	< 1.33 pg/l
1,2,3,7,8,9-Dioxin, hexa	NA	Lab		< 0.194 pg/l	< 1.32 pg/l	< 0.919 pg/l	< 0.705 pg/l	< 1.46 pg/l
1,2,3,4,6,7,8-Dioxin, hepta	NA	Lab		129 pg/l	3.80 j pg/l	< 2.96 pg/l	< 0.971 pg/l	4.12 EMPC pg/l
Dioxin octa	NA	Lab		< 2420 pg/l	< 57.3 pg/l	< 24.7 pg/l	< 12.5 pg/l	< 71.8 pg/l
2,3,7,8-Dibenzofuran, tetra	NA	Lab		< 0.183 pg/l	< 3.25 pg/l	< 0.754 pg/l	< 0.580 pg/l	< 3.46 pg/l
1,2,3,7,8-Dibenzofuran, penta	NA	Lab		< 0.202 pg/l	< 1.52 pg/l	< 1.14 pg/l	< 0.457 pg/l	< 1.23 pg/l
2,3,4,7,8-Dibenzofuran, penta	NA	Lab		< 0.199 pg/l	< 1.55 pg/l	< 1.10 pg/l	< 0.452 pg/l	< 1.20 pg/l
1,2,3,4,7,8-Dibenzofuran, hexa	NA	Lab		1.01 EMPC pg/l	< 0.773 pg/l	< 4.12 pg/l	< 0.492 pg/l	< 1.31 pg/l
1,2,3,6,7,8-Dibenzofuran, hexa	NA	Lab		< 0.305 pg/l	< 0.746 pg/l	< 2.53 pg/l	< 0.470 pg/l	< 1.23 pg/l
1,2,3,7,8,9-Dibenzofuran, hexa	NA	Lab		< 0.396 pg/l	< 1.08 pg/l	< 1.26 pg/l	< 0.631 pg/l	< 1.51 pg/l
2,3,4,6,7,8-Dibenzofuran, hexa	NA	Lab		< 0.340 pg/l	< 0.852 pg/l	< 1.08 pg/l	< 0.539 pg/l	< 1.39 pg/l
1,2,3,4,6,7,8-Dibenzofuran, hepta	NA	Lab		19.2 j pg/l	< 0.546 pg/l	< 9.45 pg/l	< 0.481 pg/l	< 0.891 pg/l
1,2,3,4,7,8,9-Dibenzofuran, hepta	NA	Lab		1.63 EMPC pg/l	< 0.793 pg/l	< 3.68 pg/l	< 0.669 pg/l	< 1.18 pg/l
Dibenzofuran octa	NA	Lab		182 pg/l	< 1.91 pg/l	< 32.8 pg/l	< 1.35 pg/l	< 4.90 pg/l
TEQ <sub>DF</sub> WHO05 <sup>3</sup> , non-detects at half of the detection limit	NA	Lab	30 pg/l	2.27 a pg/l	3.29 a pg/l	<1.90 pg/l	<0.917 pg/l	4.02 a pg/l
TEQ <sub>DF</sub> WHO05 <sup>4</sup> , non-detects at zero for the detection limit	NA	Lab	30 pg/l	1.69 a pg/l	0.038 a pg/l	ND pg/l	ND pg/l	0.021 a pg/l

**Table 19**  
**Groundwater Quality Data - Base of Surficial Aquifer**  
**OU3 - City Dump Area**  
**St. Regis Paper Company Site**

Sys Loc Code				W2228	W2233	W2233	W2233	W2233	W2234	W2236	W2236
Sample Date				05/19/2009	02/18/2009	05/16/2009	08/25/2009	11/10/2009	05/14/2009	02/19/2009	05/16/2009
Sample Type Code				N	N	N	N	N	N	N	N
Chemical Name	Total or Dissolved	Analysis Location	Drinking Water Criteria								
Effective Date											
Exceedance Key			Bold								
Benzo(a)anthracene	NA	Lab		< 0.0026 ug/l	< 0.0026 ug/l	< 0.0026 ug/l	< 0.0026 ug/l	< 0.0026 h ug/l	< 0.0027 ug/l	< 0.0026 ug/l	< 0.0026 ug/l
Chrysene	NA	Lab		< 0.0034 ug/l	0.0078 j ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 h ug/l	< 0.0035 ug/l	< 0.0034 ug/l	< 0.0034 ug/l
Benzo(b)fluoranthene	NA	Lab		< 0.0023 ug/l	0.0063 j ug/l	< 0.0023 ug/l	< 0.0023 ug/l	< 0.0023 h ug/l	< 0.0024 ug/l	< 0.0023 ug/l	< 0.0023 ug/l
Benzo(k)fluoranthene	NA	Lab		< 0.0025 ug/l	0.0046 j ug/l	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 h ug/l	< 0.0026 ug/l	< 0.0025 ug/l	< 0.0025 ug/l
Benzo(a)pyrene	NA	Lab		< 0.0043 ug/l	< 0.0043 ug/l	< 0.0043 ug/l	< 0.0043 ug/l	< 0.0043 h ug/l	< 0.0044 ug/l	< 0.0043 ug/l	< 0.0043 ug/l
Indeno(1,2,3-cd)pyrene	NA	Lab		< 0.0026 ug/l	0.0043 j ug/l	< 0.0026 ug/l	< 0.0026 ug/l	< 0.0026 h ug/l	< 0.0027 ug/l	< 0.0026 ug/l	< 0.0026 ug/l
Dibenz(a,h)anthracene	NA	Lab		< 0.0025 ug/l	0.0035 j ug/l	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 h ug/l	< 0.0026 ug/l	< 0.0025 ug/l	< 0.0025 ug/l
BaP equivalent, non-detects at half of the detection limit. <sup>1</sup>	NA	Lab	0.2 ug/l	<0.0034 ug/l	0.0058 a ug/l	<0.0034 ug/l	<0.0034 ug/l	<0.0034 a ug/l	<0.0035 ug/l	<0.0034 ug/l	<0.0034 ug/l
BaP equivalent, non-detects at zero for the detection limit. <sup>2</sup>	NA	Lab	0.2 ug/l	ND ug/l	0.0036 a ug/l	ND ug/l	ND ug/l	ND a ug/l	ND ug/l	ND ug/l	ND ug/l
2-Methylnaphthalene	NA	Lab		0.0028 j ug/l	0.011 j ug/l	0.0026 j ug/l	< 0.0040 ug/l	0.0058 jh ug/l	< 0.0024 ug/l	< 0.0023 ug/l	0.0087 j ug/l
Acenaphthene	NA	Lab	400 ug/l	< 0.0044 ug/l	0.0071 j ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 h ug/l	< 0.0045 ug/l	< 0.0044 ug/l	< 0.0044 ug/l
Acenaphthylene	NA	Lab		< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 h ug/l	< 0.0035 ug/l	< 0.0034 ug/l	< 0.0034 ug/l
Anthracene	NA	Lab	2000 ug/l	< 0.0036 ug/l	< 0.0036 ug/l	0.0039 j ug/l	< 0.0036 ug/l	< 0.0036 h ug/l	< 0.0037 ug/l	< 0.0036 ug/l	< 0.0036 ug/l
Benzo(g,h,i)perylene	NA	Lab		< 0.0029 ug/l	< 0.0029 ug/l	< 0.0029 ug/l	< 0.0029 ug/l	< 0.0029 h ug/l	< 0.0030 ug/l	< 0.0029 ug/l	< 0.0029 ug/l
Fluoranthene	NA	Lab	300 ug/l	< 0.0044 ug/l	0.0051 j ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 h ug/l	< 0.0045 ug/l	< 0.0044 ug/l	< 0.0044 ug/l
Fluorene	NA	Lab	300 ug/l	< 0.0038 ug/l	< 0.0038 ug/l	< 0.0038 ug/l	< 0.0038 ug/l	< 0.0038 h ug/l	< 0.0039 ug/l	< 0.0038 ug/l	< 0.0038 ug/l
Naphthalene	NA	Lab	300 ug/l	< 0.021 ug/l	0.039 ug/l	< 0.0098 ug/l	< 0.019 ug/l	0.072 h ug/l	< 0.011 ug/l	< 0.0030 ug/l	0.042 ug/l
Phenanthrene	NA	Lab		< 0.0050 ug/l	< 0.0050 ug/l	< 0.0050 ug/l	< 0.0050 ug/l	< 0.0050 h ug/l	0.0056 j ug/l	< 0.0050 ug/l	0.0073 j ug/l
Pyrene	NA	Lab	200 ug/l	< 0.0035 ug/l	< 0.0035 ug/l	< 0.0035 ug/l	< 0.0035 ug/l	< 0.0035 h ug/l	< 0.0036 ug/l	< 0.0035 ug/l	< 0.0035 ug/l
Pentachlorophenol	NA	Lab	<b>1 ug/l</b>	0.36 j ug/l	< 0.16 ug/l	< 0.16 ug/l	< 0.16 ug/l	< 0.16 ug/l	< 0.16 ug/l	< 0.16 ug/l	< 0.16 ug/l

**Table 19**  
**Groundwater Quality Data - Base of Surficial Aquifer**  
**OU3 - City Dump Area**  
**St. Regis Paper Company Site**

Sys Loc Code				W2236		W2236	W2237R	W2238	W2239
Sample Date				08/26/2009		11/11/2009	05/17/2009	05/17/2009	05/17/2009
Sample Type Code				N	FD	N	N	N	N
Chemical Name	Total or Dissolved	Analysis Location	Drinking Water Criteria						
<b>Effective Date</b>									
<b>Exceedance Key</b>			<b>Bold</b>						
Benzo(a)anthracene	NA	Lab		< 0.0026 ug/l	< 0.0026 ug/l	< 0.0026 ug/l	< 0.0043 ug/l	< 0.0072 ug/l	< 0.0026 ug/l
Chrysene	NA	Lab		< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0035 ug/l	< 0.0035 ug/l	< 0.0034 ug/l
Benzo(b)fluoranthene	NA	Lab		< 0.0023 ug/l	< 0.0023 ug/l	< 0.0023 ug/l	0.0027 j ug/l	< 0.0024 ug/l	< 0.0023 ug/l
Benzo(k)fluoranthene	NA	Lab		< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0026 ug/l	< 0.0026 ug/l	< 0.0025 ug/l
Benzo(a)pyrene	NA	Lab		< 0.0043 ug/l	< 0.0043 ug/l	< 0.0043 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0043 ug/l
Indeno(1,2,3-cd)pyrene	NA	Lab		< 0.0026 ug/l	< 0.0026 ug/l	< 0.0026 ug/l	< 0.0027 ug/l	< 0.0027 ug/l	< 0.0026 ug/l
Dibenz(a,h)anthracene	NA	Lab		< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0026 ug/l	< 0.0026 ug/l	< 0.0025 ug/l
BaP equivalent, non-detects at half of the detection limit. <sup>1</sup>	NA	Lab	0.2 ug/l	<0.0034 ug/l	<0.0034 ug/l	<0.0034 ug/l	0.0037 a ug/l	<0.0037 ug/l	<0.0034 ug/l
BaP equivalent, non-detects at zero for the detection limit. <sup>2</sup>	NA	Lab	0.2 ug/l	ND ug/l	ND ug/l	ND ug/l	0.0003 a ug/l	ND ug/l	ND ug/l
2-Methylnaphthalene	NA	Lab		< 0.0023 ug/l	< 0.0023 ug/l	< 0.0023 ug/l	0.0057 j ug/l	18 ug/l	0.0054 j ug/l
Acenaphthene	NA	Lab	400 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	0.0073 j ug/l	17 ug/l	< 0.0044 ug/l
Acenaphthylene	NA	Lab		< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0035 ug/l	0.12 ug/l	< 0.0034 ug/l
Anthracene	NA	Lab	2000 ug/l	< 0.0036 ug/l	< 0.0036 ug/l	< 0.0036 ug/l	< 0.0037 ug/l	0.68 ug/l	< 0.0036 ug/l
Benzo(g,h,i)perylene	NA	Lab		< 0.0029 ug/l	< 0.0029 ug/l	< 0.0029 ug/l	< 0.0030 ug/l	< 0.0030 ug/l	< 0.0029 ug/l
Fluoranthene	NA	Lab	300 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	0.0077 j ug/l	0.69 ug/l	< 0.0044 ug/l
Fluorene	NA	Lab	300 ug/l	< 0.0038 ug/l	< 0.0038 ug/l	< 0.0038 ug/l	< 0.0039 ug/l	8.6 ug/l	< 0.0038 ug/l
Naphthalene	NA	Lab	300 ug/l	< 0.0059 ug/l	< 0.0064 ug/l	0.011 j ug/l	< 0.076 ug/l	180 ug/l	< 0.035 ug/l
Phenanthrene	NA	Lab		< 0.0050 ug/l	< 0.0050 ug/l	< 0.0050 ug/l	0.01 j ug/l	6.9 ug/l	< 0.0050 ug/l
Pyrene	NA	Lab	200 ug/l	< 0.0035 ug/l	< 0.0035 ug/l	< 0.0035 ug/l	0.0049 j ug/l	0.29 ug/l	< 0.0035 ug/l
Pentachlorophenol	NA	Lab	<b>1 ug/l</b>	< 0.16 ug/l	< 0.16 ug/l	< 0.16 ug/l	0.34 j ug/l	<b>6.2 ug/l</b>	< 0.16 ug/l

**Table 20**  
**Groundwater Quality Data - Lower Aquifer**  
**OU3 - City Dump Area**  
**St. Regis Paper Company Site**

Sys Loc Code				W2335	W2336	W2336	W2336	W2336	W2339
Sample Date				05/13/2009	02/18/2009	05/16/2009	08/26/2009	11/11/2009	05/17/2009
Sample Type Code				N	N	N	N	N	N
Chemical Name	Total or Dissolved	Analysis Location	Drinking Water Criteria						
<b>Effective Date</b>									
<b>Exceedance Key</b>			No Exceed						
Benzo(a)anthracene	NA	Lab		< 0.0027 ug/l	< 0.0026 ug/l	< 0.0027 ug/l	< 0.0026 ug/l	< 0.0026 ug/l	< 0.0027 ug/l
Chrysene	NA	Lab		< 0.0035 ug/l	< 0.0034 ug/l	< 0.0035 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0035 ug/l
Benzo(b)fluoranthene	NA	Lab		< 0.0024 ug/l	< 0.0023 ug/l	0.0027 j ug/l	< 0.0023 ug/l	< 0.0023 ug/l	< 0.0024 ug/l
Benzo(k)fluoranthene	NA	Lab		< 0.0026 ug/l	< 0.0025 ug/l	< 0.0026 ug/l	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0026 ug/l
Benzo(a)pyrene	NA	Lab		< 0.0044 ug/l	< 0.0043 ug/l	< 0.0044 ug/l	< 0.0043 ug/l	< 0.0043 ug/l	< 0.0044 ug/l
Indeno(1,2,3-cd)pyrene	NA	Lab		< 0.0027 ug/l	< 0.0026 ug/l	< 0.0027 ug/l	< 0.0026 ug/l	< 0.0026 ug/l	< 0.0027 ug/l
Dibenz(a,h)anthracene	NA	Lab		< 0.0026 ug/l	< 0.0025 ug/l	< 0.0026 ug/l	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0026 ug/l
BaP equivalent, non-detects at half of the detection limit. <sup>1</sup>	NA	Lab	0.2 ug/l	<0.0035 ug/l	<0.0034 ug/l	0.0036 a ug/l	<0.0034 ug/l	<0.0034 ug/l	<0.0035 ug/l
BaP equivalent, non-detects at zero for the detection limit. <sup>2</sup>	NA	Lab	0.2 ug/l	ND ug/l	ND ug/l	0.0003 a ug/l	ND ug/l	ND ug/l	ND ug/l
2-Methylnaphthalene	NA	Lab		0.0055 j ug/l	0.0029 j ug/l	0.098 ug/l	< 0.0023 ug/l	< 0.0023 ug/l	0.0045 j ug/l
Acenaphthene	NA	Lab	400 ug/l	< 0.0045 ug/l	< 0.0044 ug/l	0.024 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0045 ug/l
Acenaphthylene	NA	Lab		< 0.0035 ug/l	< 0.0034 ug/l	< 0.0035 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0035 ug/l
Anthracene	NA	Lab	2000 ug/l	< 0.0037 ug/l	< 0.0036 ug/l	< 0.0037 ug/l	< 0.0036 ug/l	< 0.0036 ug/l	< 0.0037 ug/l
Benzo(g,h,i)perylene	NA	Lab		< 0.0030 ug/l	< 0.0029 ug/l	< 0.0030 ug/l	< 0.0029 ug/l	< 0.0029 ug/l	< 0.0030 ug/l
Fluoranthene	NA	Lab	300 ug/l	< 0.0045 ug/l	< 0.0044 ug/l	0.013 j ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0045 ug/l
Fluorene	NA	Lab	300 ug/l	< 0.0039 ug/l	< 0.0038 ug/l	0.022 ug/l	< 0.0038 ug/l	< 0.0038 ug/l	< 0.0039 ug/l
Naphthalene	NA	Lab	300 ug/l	< 0.020 ug/l	0.016 j ug/l	0.52 ug/l	< 0.021 ug/l	0.034 ug/l	< 0.021 ug/l
Phenanthrene	NA	Lab		0.0064 j ug/l	< 0.0050 ug/l	0.032 ug/l	< 0.0050 ug/l	< 0.0050 ug/l	0.015 j ug/l
Pyrene	NA	Lab	200 ug/l	< 0.0036 ug/l	< 0.0035 ug/l	0.0086 j ug/l	< 0.0035 ug/l	< 0.0035 ug/l	< 0.0036 ug/l
Pentachlorophenol	NA	Lab	1 ug/l	< 0.16 ug/l	< 0.16 ug/l	0.24 j ug/l	< 0.16 ug/l	< 0.16 ug/l	< 0.16 ug/l

**Table 21**  
**Water Quality Data Over Time**  
**OU3 - City Dump Pit Site**  
**City Dump Pit Site**  
**(concentrations in ug/L)**

Top of Surficial Aquifer																		
Year	MW2106			MW2127			MW2128			MW2129			MW2134			MW2135		
	BaP Eq	Naph.	PCP	BaP Eq	Naph.	PCP	BaP Eq	Naph.	PCP	BaP Eq	Naph.	PCP	BaP Eq	Naph.	PCP	BaP Eq	Naph.	PCP
DWC	0.2	300	1	0.2	300	1	0.2	300	1	0.2	300	1	0.2	300	1	0.2	300	1
1987	---	---	---	0.0011 U	0.0038	6 U	5.9 U	6 U	3400	0.0028 U	0.012	9.1	5.9 U	6 U	11000	0.0011 U	0.017	6 U
1988	---	---	---	0.0013	0.0074	6 U	5.9 U	6 U	2400	0.0011 U	0.0045	6 U	5.9 U	6 U	4600	0.0023 U	0.009	6 U
1989	---	---	---	0.0011 U	0.073	6 U	490 U	1200	1200	9.9 U	10 U	10 U	0.0045 U	0.013	74	0.0011 U	0.0036	6 U
1990	---	---	---	0.0011 U	0.0019	6 U	9.9 U	10 U	190	0.0011 U	0.0028	6 U	9.9 U	10 U	10 U	0.0011 U	0.0021	6 U
1991	---	---	---	0.012 U	0.13	6 U	9.9 U	10 U	99	0.003 U	0.0047	6 U	9.9 U	10 U	10 U	0.0059 U	0.008 U	6 U
1992	---	---	---	0.003 U	0.004 U	6 U	9.9 U	10 U	10 U	0.003 U	0.005	6 U	9.9 U	10 U	10 U	0.003 U	0.0048	6 U
1993	---	---	---	0.003 U	0.00882	6 U	0.17 U	1.06	130	0.003 U	0.0146	6 U	0.0037 U	0.0199	6 U	0.0035	0.00847	6 U
1994	---	---	---	0.03 U	0.03 U	3 U	0.12 U	0.12 U	38	0.003 U	0.004	3 U	0.059 U	0.06 U	3 U	0.0591 U	0.06 U	3 U
1995	---	---	---	0.003 U	0.003	3 U	0.59 U	13	120	0.003 U	0.004	3 U	0.003 U	0.004	3 U	0.003 U	0.003 U	3 U
1996	---	---	---	9.9 U	10 U	50 U	---	---	---	9.9 U	10 U	50 U	---	---	---	9.9 U	10 U	50 U
1997	---	---	---	9.9 U	10 U	50 U	9.9 U	96	79	9.9 U	10 U	50 U	9.9 U	10 U	50 U	9.9 U	10 U	50 U
1998	---	---	---	0.099 U	0.1 U	5 U	---	---	---	0.099 U	0.1 U	5 U	---	---	---	0.099 U	0.1 U	5 U
1999	---	---	---	0.02 U	0.02 U	3 U	0.02 U	23	3.7	0.02 U	0.02 U	3 U	0.02 U	0.02 U	3 U	0.02 U	0.02 U	---
2000	---	---	---	0.02 U	0.02 U	3 U	0.02 U	23	4	0.02 U	0.02 U	3 U	---	---	---	0.02 U	0.02 U	3 U
2001	140 U	1500 J	2,600 J	0.02 U	0.02 U	0.5 U	0.02 U	49	48	0.02 U	0.02 U	1.5	0.019 U	0.019 U	0.5 U	0.019 U	0.019 U	0.5 U
2002	---	---	---	0.02 U	0.02 U	2.9 U	0.02 U	43	2.9 U	0.02 U	0.034	0.5 U	---	---	---	0.021 U	0.046	2.2 U
2003	---	---	---	0.02 U	0.02 U	0.5 U	0.02 U	25	25	0.02 U	0.02 U	0.5 U	0.02 U	0.02 U	0.5 U	0.02 U	0.02 U	0.5 U
2004	---	---	---	0.02 U	0.02 U	0.96 U	0.02 U	1.8	5.5	0.02 U	0.02 U	0.5 U	---	---	---	0.02 U	0.02 U	0.96 U
2005	---	---	---	0.02 U	0.02 U	0.5 U	0.02 U	6.1	6.4	0.02 U	0.02 U	0.5 U	0.021 U	0.021 U	0.5 U	0.021 U	0.021 U	0.5 U
2006	0.2 U	2,600 J	56,000	0.004 U	0.012 U	0.13 U	0.004 U	13	24	0.0041 U	0.0074 J	0.13 U	0.004 U	0.0065 U	0.13 U	0.004 U	0.017 U	0.13 U
2007	0.68 U	0.98 J	22,000	0.004 U	0.0069 U	0.13 U	0.004 U	0.014 U	5.1	0.0042 U	0.0068 U	0.13 U	0.004 U	0.0065 U	0.13 U	0.004 U	0.0079 J	0.13 U
2008	0.68 U	120	16,000	0.0034 U	0.040	0.080 U	0.0034 U	1.3	5.9	0.0035 a	0.030	0.080 U	0.0034 U	0.0094 U	0.080 U	0.0034 U	0.022 U	0.080 U
2009	0.68 U	11	11,000	0.0035 U	0.0061 U	0.16 U	0.0035 U	4.9	5.6	0.0034 U	0.011 U	0.16 U	---	---	---	0.0035 U	0.0049 U	0.16 U

--- No sample collected or analyzed.

\* Estimated value, QA/QC criteria not met.

a Estimated value, calculated using some or all values that are estimates.

J Reported value is less than the stated laboratory quantitation limit and is considered an estimated value.

U Value is non-detect at the method reporting limit.

Shaded cell indicates concentration above response action level (DWC).

BaP Eq - Benzo(a)pyrene equivalency calculated at ND = 1/2 DL.

Naph. - Naphthalene concentration

PCP - Pentachlorophenol concentration

**Table 21**  
**Water Quality Data Over Time**  
**OU3 - City Dump Pit Site**  
**City Dump Pit Site**  
**(concentrations in ug/L)**

Base of Surficial Aquifer															
Year	MW2228			MW2233			MW2234			MW2236			MW2238		
	BaP Eq	Naph.	PCP	BaP Eq	Naph.	PCP	BaP Eq	Naph.	PCP	BaP Eq	Naph.	PCP	BaP Eq	Naph.	PCP
DWC	0.2	300	1	0.2	300	1	0.2	300	1	0.2	300	1	0.2	300	1
1987	---	---	---	---	---	---	0.0011 U	0.022	6 U	---	---	---	---	---	---
1988	---	---	---	---	---	---	0.0023 U	0.056	6 U	---	---	---	---	---	---
1989	---	---	---	---	---	---	0.0013 U	0.11	6 U	---	---	---	---	---	---
1990	---	---	---	---	---	---	0.003 U	0.0045	6 U	---	---	---	---	---	---
1991	---	---	---	---	---	---	9.9 U	10 U	10 U	---	---	---	---	---	---
1992	---	---	---	---	---	---	0.071 U	0.096 U	6 U	---	---	---	---	---	---
1993	---	---	---	---	---	---	0.003 U	0.0271	6 U	---	---	---	---	---	---
1994	---	---	---	---	---	---	0.059 U	0.06 U	3 U	---	---	---	---	---	---
1995	---	---	---	---	---	---	0.003 U	0.004	3 U	---	---	---	---	---	---
1996	---	---	---	---	---	---	9.9 U	10 U	50 U	---	---	---	---	---	---
1997	---	---	---	---	---	---	9.9 U	10 U	50 U	---	---	---	---	---	---
1998	---	---	---	---	---	---	0.099 U	0.1 U	5 U	---	---	---	---	---	---
1999	---	---	---	---	---	---	0.02 U	0.02 U	3 U	---	---	---	---	---	---
2000	---	---	---	---	---	---	0.02 U	0.02 U	3 U	---	---	---	---	---	---
2001	---	---	---	---	---	---	0.019 U	0.0189 U	0.5 U	---	---	---	---	---	---
2002	---	---	---	---	---	---	0.02 U	0.02 U	3 U	---	---	---	---	---	---
2003	---	---	---	---	---	---	0.02 U	0.02 U	0.5 U	---	---	---	---	---	---
2004	---	---	---	---	---	---	0.02 U	0.02 U	0.98 U	---	---	---	---	---	---
2005	---	---	---	---	---	---	0.021 U	0.021 U	0.5 U	---	---	---	---	---	---
2006	---	---	---	0.004 U	0.0071 U	0.13 U	0.004 U	0.0065 U	0.13 U	0.004 U	0.011 U	0.13 U	---	---	---
2007	---	---	---	0.004 U	0.0094 J	0.13 U	0.0041 U	0.0066 U	0.13 U	0.0034 U	0.0069 U	0.08 U	---	---	---
2008	0.75 U	0.37 U	2.5 U	0.0034 U	0.032 U	0.080 U	0.0036 a	0.015 U	0.080 U	0.0045 a	0.031 U	0.080 U	0.75 U	99	3.4 J
2009	0.0034 U	0.021 U	0.36 J	0.0058 a	0.072 h	0.16 U	0.0035 U	0.011 U	0.16 U	0.0034 U	0.011 J	0.16 U	0.0037 U	180	6.2

--- No sample collected or analyzed.

a Estimated value, calculated using some or all values that are estimates.

h EPA recommended sample preservation, extraction or analysis holding time was exceeded.

J Reported value is less than the stated laboratory quantitation limit and is considered an estimated value.

U Value is non-detect at the method reporting limit.

Shaded cell indicates concentration above response action level (DWC).

BaP Eq - Benzo(a)pyrene equivalency calculated at ND = 1/2 DL.

Naph. - Naphthalene concentration

PCP - Pentachlorophenol concentration

**Table 21**  
**Water Quality Data Over Time**  
**OU3 - City Dump Pit Site**  
**City Dump Pit Site**  
**(concentrations in ug/L)**

Lower Aquifer																		
Year	MW2301			MW2325			MW2326			MW2329			MW2333			MW2335		
	BaP Eq	Naph.	PCP	BaP Eq	Naph.	PCP	BaP Eq	Naph.	PCP	BaP Eq	Naph.	PCP	BaP Eq	Naph.	PCP	BaP Eq	Naph.	PCP
DWC	0.2	300	1	0.2	300	1	0.2	300	1	0.2	300	1	0.2	300	1	0.2	300	1
1987	0.0011 U	0.012	6 U	0.0011 U	0.011	6 U	0.0011 U	0.013	6 U	---	---	---	0.0011 U	0.011	6 U	0.0011 U	0.0041	6 U
1988	0.0023 U	0.0098	6 U	0.0023 U	0.007	6 U	0.0023 U	0.0071	6 U	---	---	---	0.0011 U	0.0028	6 U	0.0023 U	0.0058	6 U
1989	0.0011 U	0.04	6 U	0.0011 U	0.021	6 U	0.0011 U	0.017	6 U	---	---	---	0.5 U	0.0067	6 U	0.0011 U	0.011	6 U
1990	0.0011 U	0.0082	6 U	0.011 U	0.0099	6 U	9.9 U	10 U	10 U	---	---	---	9.9 U	10 U	10 U	0.0011 U	0.0035	6 U
1991	---	---	---	0.0033 U	0.0094	6 U	9.9 U	10 U	10 U	---	---	---	9.9 U	10 U	10 U	0.003 U	0.0082	6 U
1992	0.003 U	0.0062	6 U	0.003 U	0.009	6 U	9.9 U	10	10 U	---	---	---	9.9 U	10 U	10 U	0.003 U	0.0089	6 U
1993	0.003 U	0.0135	6 U	0.0034	0.01	6 U	0.0089 U	0.02	6 U	---	---	---	0.003 U	0.0123	6U	0.0031	0.0141	6 U
1994	9.9 U	10 U	5 U	0.0059 U	0.292	3 U	0.059 U	0.06 U	3 U	0.0059 U	0.006 U	3 U	0.15 U	0.15 U	3 U	0.03 U	0.03 U	3 U
1995	0.003 U	0.01	3 U	0.003 U	0.004	3 U	0.003 U	0.014	3 U	0.003 U	0.004	3 U	0.003 U	0.004	3 U	0.003 U	0.005	3 U
1996	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	9.9 U	10 U	50 U
1997	9.9 U	10 U	50 U	9.9 U	10 U	50 U	9.9 U	10 U	50 U	9.9 U	10 U	50 U	9.9 U	10 U	50 U	9.9 U	10 U	50 U
1998	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.099 U	0.1 U	5 U
1999	0.02 U	0.03	3 U	0.02 U	0.02 U	3 U	0.02 U	0.07	3 U	0.02 U	0.02 U	3 U	0.02 U	0.02 U	3 U	0.02 U	0.04	3 U
2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.02 U	0.02 U	3 U
2001	0.023 U	0.058	0.5 U	0.019 U	0.019 U	0.5 U	0.022 U	0.068	0.5 U	0.02 U	0.02 U	0.5 U	0.02 U	0.019 U	0.5 U	0.022 U	0.022 U	0.5 U
2002	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.02 U	0.02 U	2.9 U
2003	0.02 U	0.13	0.5 U	0.02 U	0.02 U	0.5 U	0.02 U	0.067	0.5 U	0.02 U	0.02 U	0.5 U	0.02 U	0.02 U	0.5 U	0.2 U	0.06	0.5 U
2004	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.02 U	0.058	0.96 U
2005	0.02 U	0.12	0.5 U	0.021 U	0.021 U	0.5 U	0.021 U	0.25	0.5 U	0.021 U	0.021 U	0.5 U	0.022 U	0.022 U	0.5 U	0.022 U	0.022 U	0.5 U
2006	0.013	0.0065 U	0.2 J	0.004 U	0.015 U	0.13 U	0.004 U	0.011 U	0.13 U	0.004 U	0.004 U	0.13 U	0.004 U	0.0065 U	0.13 U	0.004 U	0.044 U	0.13U
2007	0.004 U	0.0099 J	0.13 U	0.004 U	0.0077 U	0.13 U	0.004 U	0.0065 U	0.13 U	0.0042 U	0.014 U	0.13 U	0.004 U	0.0065 U	0.13 U	0.004 U	0.02 J	0.13 U
2008	0.0034 U	0.035	0.080 U	0.0034 U	0.020	0.080 U	0.0034 U	0.022	0.080 U	0.0034 U	0.015 J	0.080 U	0.0034 U	0.017 U	0.080 U	0.0034 U	0.023 U	0.080 U
2009	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0035 U	0.020 U	0.16 U

--- No sample collected or analyzed.

a Estimated value, calculated using some or all values that are estimates.

h EPA recommended sample preservation, extraction or analysis holding time was exceeded.

J Reported value is less than the stated laboratory quantitation limit and is considered an estimated value.

U Value is non-detect at the method reporting limit.

Shaded cell indicates concentration above response action level (DWC).

BaP Eq - Benzo(a)pyrene equivalency calculated at ND = 1/2 DL.

Naph. - Naphthalene concentration

PCP - Pentachlorophenol concentration

**Table 21**  
**Water Quality Data Over Time**  
**OU3 - City Dump Pit Site**  
**City Dump Pit Site**  
**(concentrations in ug/L)**

Lower Aquifer			
Year	MW2336		
	BaP Eq	Naph.	PCP
DWC	0.2	300	1
1987	---	---	---
1988	---	---	---
1989	---	---	---
1990	---	---	---
1991	---	---	---
1992	---	---	---
1993	---	---	---
1994	---	---	---
1995	---	---	---
1996	---	---	---
1997	---	---	---
1998	---	---	---
1999	---	---	---
2000	---	---	---
2001	---	---	---
2002	---	---	---
2003	---	---	---
2004	---	---	---
2005	---	---	---
2006	0.004 U	0.026 U	0.14 J
2007	0.0042 a	0.17	0.13 U
2008	0.0035 U	0.37 U	0.080 U
2009	0.0036 a	0.52	0.24 J

--- No sample collected or analyzed.

a Estimated value, calculated using some or all values that are estimates.

h EPA recommended sample preservation, extraction or analysis holding time was exceeded.

J Reported value is less than the stated laboratory quantitation limit and is considered an estimated value.

U Value is non-detect at the method reporting limit.

Shaded cell indicates concentration above response action level (DWC).

BaP Eq - Benzo(a)pyrene equivalency calculated at ND = 1/2 DL.

Naph. - Naphthalene concentration

PCP - Pentachlorophenol concentration

**Table 22**  
**Groundwater Quality Data - Additional Parameters and Intervention Limits**  
**OU3 - City Dump Area**  
**St. Regis Paper Company Site**

				Sys Loc Code	W2128	W2128	W2128	W2228	W2233	W2233	W2233
				Sample Date	05/19/2009	08/25/2009	11/10/2009	05/19/2009	02/18/2009	05/16/2009	08/25/2009
				Sample Type Code	N	N	N	N	N	N	N
Chemical Name	Total or Dissolved	Analysis Location	Intervention Limits								
<b>Effective Date</b>											
<b>Exceedance Key</b>			<b>Bold</b>								
Total Petroleum Hydrocarbons											
Diesel Range Organics	NA	Lab	<b>200 ug/l</b>	38 j ug/l	--	< 46 ug/l	45 j ug/l	--	22 j ug/l	--	--
Diesel Range Organics-silica gel cleanup	NA	Lab	200 ug/l	--	< 39 ug/l	--	--	22 j ug/l	--	--	< 25 ug/l
VOCs											
Benzene	NA	Lab	114 ug/l	< 0.038 ug/l	< 0.040 ug/l	< 0.038 ug/l	< 0.038 ug/l	< 0.045 ug/l	< 0.045 ug/l	< 0.038 ug/l	< 0.038 ug/l
Ethyl benzene	NA	Lab	68 ug/l	< 0.050 ug/l	< 0.050 ug/l	0.050 j ug/l	< 0.050 ug/l	< 0.042 ug/l	< 0.042 ug/l	< 0.050 ug/l	< 0.050 ug/l
Toluene	NA	Lab	253 ug/l	< 1.1 ug/l	< 0.16 ug/l	0.080 j ug/l	0.8 ug/l	< 0.28 ug/l	0.49 j ug/l	< 0.12 ug/l	< 0.12 ug/l
Xylene m & p	NA	Lab	166 ug/l	< 0.091 ug/l	< 0.091 ug/l	< 0.091 ug/l	< 0.091 ug/l	< 0.078 ug/l	< 0.078 ug/l	< 0.091 ug/l	< 0.091 ug/l
Xylene, o-	NA	Lab	166 ug/l	< 0.074 ug/l	< 0.074 ug/l	< 0.074 ug/l	< 0.074 ug/l	< 0.037 ug/l	< 0.037 ug/l	< 0.074 ug/l	< 0.074 ug/l
SVOCs											
Pentachlorophenol	NA	Lab	<b>5.5 ug/l</b>	<b>5.6 ug/l</b>	5.0 ug/l	5.0 ug/l	0.36 j ug/l	< 0.16 ug/l	< 0.16 ug/l	< 0.16 ug/l	< 0.16 ug/l
Anthracene	NA	Lab	<b>0.035 ug/l</b>	< 0.0038 ug/l	0.0051 j ug/l	0.0049 j ug/l	< 0.0036 ug/l	< 0.0036 ug/l	0.0039 j ug/l	< 0.0036 ug/l	< 0.0036 ug/l
1,6-Dinitropyrene	NA	Lab		< 0.0018 ug/l	--	--	--	--	--	--	--
1,8-Dinitropyrene	NA	Lab		< 0.0036 ug/l	--	--	--	--	--	--	--
1-Nitropyrene	NA	Lab		< 0.0023 ug/l	--	--	--	--	--	--	--
2-Nitrofluorene	NA	Lab		< 0.00098 ug/l	--	--	--	--	--	--	--
3-Methylcholanthrene	NA	Lab		< 0.0022 ug/l	--	--	--	--	--	--	--
5-Methylchrysene	NA	Lab		< 0.00066 ug/l	--	--	--	--	--	--	--
5-Nitroacenaphthene	NA	Lab		< 0.0012 ug/l	--	--	--	--	--	--	--
6-Nitrochrysene	NA	Lab		< 0.0014 ug/l	--	--	--	--	--	--	--
7,12-Dimethylbenz(a)anthracene	NA	Lab		< 0.0014 ug/l	--	--	--	--	--	--	--
7h-Dibenzo(c,g)carbazole	NA	Lab		< 0.00085 ug/l	--	--	--	--	--	--	--
Benzo[j]fluoranthene	NA	Lab		< 0.0029 ug/l	--	--	--	--	--	--	--
Dibenz(a,h)acridine	NA	Lab		< 0.00075 ug/l	--	--	--	--	--	--	--
Dibenz(a,j)acridine	NA	Lab		< 0.0013 ug/l	--	--	--	--	--	--	--
Dibenzo(a,e)pyrene	NA	Lab		0.0013 j ug/l	--	--	--	--	--	--	--
Dibenzo(a,l)pyrene	NA	Lab		< 0.00099 ug/l	--	--	--	--	--	--	--
Dibenzo[a,h]pyrene	NA	Lab		< 0.0010 ug/l	--	--	--	--	--	--	--
Dibenzo[a,i]pyrene	NA	Lab		< 0.00077 ug/l	--	--	--	--	--	--	--

**Table 22**  
**Groundwater Quality Data - Additional Parameters and Intervention Limits**  
**OU3 - City Dump Area**  
**St. Regis Paper Company Site**

				Sys Loc Code	W2128	W2128	W2128	W2228	W2233	W2233	W2233
				Sample Date	05/19/2009	08/25/2009	11/10/2009	05/19/2009	02/18/2009	05/16/2009	08/25/2009
				Sample Type Code	N	N	N	N	N	N	N
Chemical Name	Total or Dissolved	Analysis Location	Intervention Limits								
<b>Effective Date</b>											
<b>Exceedance Key</b>			<b>Bold</b>								
Chlorinated Dioxins / Furans											
2,3,7,8-Dioxin, tetra	NA	Lab	0.0038 pg/l	< 2.94 pg/l	< 0.831 pg/l	< 0.586 pg/l	< 0.377 pg/l	< 0.438 pg/l	< 1.79 pg/l	< 0.799 pg/l	
1,2,3,7,8-Dioxin penta	NA	Lab	0.0084 pg/l	< 1.96 pg/l	< 1.18 pg/l	< 0.591 pg/l	< 0.590 pg/l	< 0.231 pg/l	< 1.69 pg/l	< 1.05 pg/l	
1,2,3,4,7,8-Dioxin, hexa	NA	Lab	0.1267 pg/l	< 1.37 pg/l	< 0.998 pg/l	< 0.734 pg/l	< 0.359 pg/l	< 0.170 pg/l	< 1.01 pg/l	< 1.02 pg/l	
1,2,3,6,7,8-Dioxin, hexa	NA	Lab	0.38 pg/l	< 1.18 pg/l	< 0.860 pg/l	< 0.666 pg/l	< 0.318 pg/l	< 0.151 pg/l	< 0.825 pg/l	< 0.977 pg/l	
1,2,3,7,8,9-Dioxin, hexa	NA	Lab	0.38 pg/l	< 1.32 pg/l	< 0.919 pg/l	< 0.705 pg/l	< 0.346 pg/l	< 0.163 pg/l	< 0.902 pg/l	< 1.06 pg/l	
1,2,3,4,6,7,8-Dioxin, hepta	NA	Lab	7.6 pg/l	3.80 j pg/l	< 2.96 pg/l	< 0.971 pg/l	2.24 EMPC pg/l	< 0.923 pg/l	< 1.01 pg/l	< 1.04 pg/l	
Dioxin octa	NA	Lab	380 pg/l	< 57.3 pg/l	< 24.7 pg/l	< 12.5 pg/l	< 17.9 pg/l	< 5.03 pg/l	< 4.11 pg/l	< 4.27 pg/l	
2,3,7,8-Dibenzofuran, tetra	NA	Lab	0.0475 pg/l	< 3.25 pg/l	< 0.754 pg/l	< 0.580 pg/l	< 0.188 pg/l	< 0.530 pg/l	< 2.31 pg/l	< 0.780 pg/l	
1,2,3,7,8-Dibenzofuran, penta	NA	Lab	0.38 pg/l	< 1.52 pg/l	< 1.14 pg/l	< 0.457 pg/l	< 0.463 pg/l	< 0.233 pg/l	< 0.911 pg/l	< 0.685 pg/l	
2,3,4,7,8-Dibenzofuran, penta	NA	Lab	0.00475 pg/l	< 1.55 pg/l	< 1.10 pg/l	< 0.452 pg/l	< 0.459 pg/l	< 0.231 pg/l	< 0.888 pg/l	< 0.673 pg/l	
1,2,3,4,7,8-Dibenzofuran, hexa	NA	Lab	0.475 pg/l	< 0.773 pg/l	< 4.12 pg/l	< 0.492 pg/l	< 0.158 pg/l	< 0.130 pg/l	< 0.569 pg/l	< 0.874 pg/l	
1,2,3,6,7,8-Dibenzofuran, hexa	NA	Lab	0.19 pg/l	< 0.746 pg/l	< 2.53 pg/l	< 0.470 pg/l	< 0.152 pg/l	< 0.125 pg/l	< 0.532 pg/l	< 0.867 pg/l	
1,2,3,7,8,9-Dibenzofuran, hexa	NA	Lab	0.0633 pg/l	< 1.08 pg/l	< 1.26 pg/l	< 0.631 pg/l	< 0.197 pg/l	< 0.162 pg/l	< 0.654 pg/l	< 1.17 pg/l	
2,3,4,6,7,8-Dibenzofuran, hexa	NA	Lab	0.0543 pg/l	< 0.852 pg/l	< 1.08 pg/l	< 0.539 pg/l	< 0.170 pg/l	< 0.139 pg/l	< 0.601 pg/l	< 0.962 pg/l	
1,2,3,4,6,7,8-Dibenzofuran, hepta	NA	Lab	38 pg/l	< 0.546 pg/l	< 9.45 pg/l	< 0.481 pg/l	< 0.370 pg/l	< 0.105 pg/l	< 0.514 pg/l	< 1.10 pg/l	
1,2,3,4,7,8,9-Dibenzofuran, hepta	NA	Lab	0.95 pg/l	< 0.793 pg/l	< 3.68 pg/l	< 0.669 pg/l	< 0.505 pg/l	< 0.143 pg/l	< 0.678 pg/l	< 1.56 pg/l	
Dibenzofuran octa	NA	Lab	190 pg/l	< 1.91 pg/l	< 32.8 pg/l	< 1.35 pg/l	2.79 j pg/l	< 0.655 pg/l	< 1.53 pg/l	< 1.91 pg/l	

**Table 22**  
**Groundwater Quality Data - Additional Parameters and Intervention Limits**  
**OU3 - City Dump Area**  
**St. Regis Paper Company Site**

Chemical Name	Total or Dissolved	Analysis Location	Intervention Limits	Sys Loc Code	W2233	W2236	W2236	W2236		W2236	W2238	W2239
				Sample Date	11/10/2009	02/19/2009	05/16/2009	08/26/2009		11/11/2009	05/17/2009	05/17/2009
				Sample Type Code	N	N	N	N	FD	N	N	N
<b>Effective Date</b>												
<b>Exceedance Key</b>			<b>Bold</b>									
Total Petroleum Hydrocarbons												
Diesel Range Organics	NA	Lab	<b>200 ug/l</b>	< 34 ug/l	--	48 j ug/l	--	--	< 36 ug/l	<b>480 ug/l</b>	72 ug/l	
Diesel Range Organics-silica gel cleanup	NA	Lab	200 ug/l	--	18 j ug/l	--	< 20 ug/l	< 18 ug/l	--	--		
VOCs												
Benzene	NA	Lab	114 ug/l	< 0.038 ug/l	< 0.045 ug/l	< 0.045 ug/l	< 0.040 ug/l	< 0.040 ug/l	< 0.038 ug/l	< 0.045 ug/l	< 0.045 ug/l	
Ethyl benzene	NA	Lab	68 ug/l	< 0.050 ug/l	< 0.042 ug/l	< 0.042 ug/l	< 0.050 ug/l	< 0.050 ug/l	< 0.050 ug/l	0.25 j ug/l	< 0.042 ug/l	
Toluene	NA	Lab	253 ug/l	0.080 j ug/l	< 0.16 ug/l	1.2 ug/l	< 0.060 ug/l	< 0.052 ug/l	0.22 j ug/l	< 0.26 ug/l	0.57 ug/l	
Xylene m & p	NA	Lab	166 ug/l	< 0.091 ug/l	< 0.078 ug/l	< 0.078 ug/l	< 0.091 ug/l	< 0.091 ug/l	< 0.091 ug/l	0.38 j ug/l	< 0.078 ug/l	
Xylene, o-	NA	Lab	166 ug/l	< 0.074 ug/l	< 0.037 ug/l	< 0.037 ug/l	< 0.074 ug/l	< 0.074 ug/l	< 0.074 ug/l	0.43 j ug/l	< 0.037 ug/l	
SVOCs												
Pentachlorophenol	NA	Lab	<b>5.5 ug/l</b>	< 0.16 ug/l	< 0.16 ug/l	< 0.16 ug/l	< 0.16 ug/l	< 0.16 ug/l	< 0.16 ug/l	<b>6.2 ug/l</b>	< 0.16 ug/l	
Anthracene	NA	Lab	<b>0.035 ug/l</b>	< 0.0036 h ug/l	< 0.0036 ug/l	< 0.0036 ug/l	< 0.0036 ug/l	< 0.0036 ug/l	< 0.0036 ug/l	<b>0.68 ug/l</b>	< 0.0036 ug/l	
1,6-Dinitropyrene	NA	Lab		--	--	--	--	--	--	--	--	
1,8-Dinitropyrene	NA	Lab		--	--	--	--	--	--	--	--	
1-Nitropyrene	NA	Lab		--	--	--	--	--	--	--	--	
2-Nitrofluorene	NA	Lab		--	--	--	--	--	--	--	--	
3-Methylcholanthrene	NA	Lab		--	--	--	--	--	--	--	--	
5-Methylchrysene	NA	Lab		--	--	--	--	--	--	--	--	
5-Nitroacenaphthene	NA	Lab		--	--	--	--	--	--	--	--	
6-Nitrochrysene	NA	Lab		--	--	--	--	--	--	--	--	
7,12-Dimethylbenz(a)anthracene	NA	Lab		--	--	--	--	--	--	--	--	
7h-Dibenzo(c,g)carbazole	NA	Lab		--	--	--	--	--	--	--	--	
Benzo[j]fluoranthene	NA	Lab		--	--	--	--	--	--	--	--	
Dibenz(a,h)acridine	NA	Lab		--	--	--	--	--	--	--	--	
Dibenz(a,i)acridine	NA	Lab		--	--	--	--	--	--	--	--	
Dibenzo(a,e)pyrene	NA	Lab		--	--	--	--	--	--	--	--	
Dibenzo(a,l)pyrene	NA	Lab		--	--	--	--	--	--	--	--	
Dibenzo[a,h]pyrene	NA	Lab		--	--	--	--	--	--	--	--	
Dibenzo[a,i]pyrene	NA	Lab		--	--	--	--	--	--	--	--	

**Table 22**  
**Groundwater Quality Data - Additional Parameters and Intervention Limits**  
**OU3 - City Dump Area**  
**St. Regis Paper Company Site**

				Sys Loc Code	W2233	W2236	W2236	W2236		W2236	W2238	W2239
				Sample Date	11/10/2009	02/19/2009	05/16/2009	08/26/2009		11/11/2009	05/17/2009	05/17/2009
				Sample Type Code	N	N	N	N	FD	N	N	N
Chemical Name	Total or Dissolved	Analysis Location	Intervention Limits									
<b>Effective Date</b>												
<b>Exceedance Key</b>			<b>Bold</b>									
Chlorinated Dioxins / Furans												
2,3,7,8-Dioxin, tetra	NA	Lab	0.0038 pg/l	< 0.592 pg/l	< 1.02 pg/l	< 2.01 pg/l	< 0.725 pg/l	< 0.616 pg/l	< 0.880 pg/l	< 2.72 pg/l	< 1.71 pg/l	
1,2,3,7,8-Dioxin penta	NA	Lab	0.0084 pg/l	< 0.733 pg/l	< 0.498 pg/l	< 1.92 pg/l	< 0.951 pg/l	< 0.669 pg/l	< 0.600 pg/l	< 1.84 pg/l	< 1.74 pg/l	
1,2,3,4,7,8-Dioxin, hexa	NA	Lab	0.1267 pg/l	< 0.992 pg/l	< 0.474 pg/l	< 0.990 pg/l	< 1.33 pg/l	< 1.07 pg/l	< 0.741 pg/l	< 1.14 pg/l	< 0.938 pg/l	
1,2,3,6,7,8-Dioxin, hexa	NA	Lab	0.38 pg/l	< 0.900 pg/l	< 0.387 pg/l	< 0.810 pg/l	< 1.27 pg/l	< 1.03 pg/l	< 0.673 pg/l	< 0.931 pg/l	< 0.768 pg/l	
1,2,3,7,8,9-Dioxin, hexa	NA	Lab	0.38 pg/l	< 0.953 pg/l	< 0.424 pg/l	< 0.885 pg/l	< 1.37 pg/l	< 1.10 pg/l	< 0.712 pg/l	< 1.02 pg/l	< 0.839 pg/l	
1,2,3,4,6,7,8-Dioxin, hepta	NA	Lab	7.6 pg/l	< 0.748 pg/l	< 1.98 pg/l	< 1.24 pg/l	< 1.55 pg/l	< 1.12 pg/l	< 0.623 pg/l	< 1.15 pg/l	< 0.709 pg/l	
Dioxin octa	NA	Lab	380 pg/l	< 5.78 pg/l	< 8.91 pg/l	< 14.2 pg/l	< 3.74 pg/l	< 2.48 pg/l	< 3.21 pg/l	< 13.5 pg/l	< 3.88 pg/l	
2,3,7,8-Dibenzofuran, tetra	NA	Lab	0.0475 pg/l	< 0.788 pg/l	< 1.42 pg/l	< 2.02 pg/l	< 0.760 pg/l	< 0.815 pg/l	< 0.838 pg/l	< 2.99 pg/l	< 1.94 pg/l	
1,2,3,7,8-Dibenzofuran, penta	NA	Lab	0.38 pg/l	< 0.651 pg/l	< 0.324 pg/l	< 0.784 pg/l	< 0.652 pg/l	< 0.633 pg/l	< 0.600 pg/l	< 1.13 pg/l	< 0.831 pg/l	
2,3,4,7,8-Dibenzofuran, penta	NA	Lab	0.00475 pg/l	< 0.644 pg/l	< 0.317 pg/l	< 0.765 pg/l	< 0.641 pg/l	< 0.621 pg/l	< 0.593 pg/l	< 1.10 pg/l	< 0.810 pg/l	
1,2,3,4,7,8-Dibenzofuran, hexa	NA	Lab	0.475 pg/l	< 0.485 pg/l	< 0.294 pg/l	< 0.669 pg/l	< 1.04 pg/l	< 0.676 pg/l	< 0.371 pg/l	< 0.806 pg/l	< 0.626 pg/l	
1,2,3,6,7,8-Dibenzofuran, hexa	NA	Lab	0.19 pg/l	< 0.464 pg/l	< 0.275 pg/l	< 0.625 pg/l	< 1.03 pg/l	< 0.670 pg/l	< 0.355 pg/l	< 0.752 pg/l	< 0.584 pg/l	
1,2,3,7,8,9-Dibenzofuran, hexa	NA	Lab	0.0633 pg/l	< 0.621 pg/l	< 0.338 pg/l	< 0.769 pg/l	< 1.39 pg/l	< 0.903 pg/l	< 0.476 pg/l	< 0.925 pg/l	< 0.719 pg/l	
2,3,4,6,7,8-Dibenzofuran, hexa	NA	Lab	0.0543 pg/l	< 0.530 pg/l	< 0.311 pg/l	< 0.708 pg/l	< 1.14 pg/l	< 0.743 pg/l	< 0.406 pg/l	< 0.851 pg/l	< 0.662 pg/l	
1,2,3,4,6,7,8-Dibenzofuran, hepta	NA	Lab	38 pg/l	< 0.602 pg/l	< 0.347 pg/l	< 0.711 pg/l	< 2.26 pg/l	< 1.72 pg/l	< 0.432 pg/l	< 0.624 pg/l	< 0.407 pg/l	
1,2,3,4,7,8,9-Dibenzofuran, hepta	NA	Lab	0.95 pg/l	< 0.837 pg/l	< 0.459 pg/l	< 0.939 pg/l	< 3.20 pg/l	< 2.44 pg/l	< 0.601 pg/l	< 0.823 pg/l	< 0.537 pg/l	
Dibenzofuran octa	NA	Lab	190 pg/l	< 1.19 pg/l	< 2.52 pg/l	< 2.51 pg/l	< 2.44 pg/l	< 2.90 pg/l	< 1.33 pg/l	< 2.20 pg/l	< 1.99 pg/l	

**Table 23**  
**Water Quality Over Time**  
**Extraction Wells**  
**St. Regis Paper Company Site**  
**(concentrations in ug/L)**

Year	OU1 - Extraction Wells											OU3 - Extraction Wells		
	W401 PCP	W402 PCP	W403 PCP	W404 PCP	W405 PCP	W406 PCP	W407 PCP	W408 PCP	W409 PCP	W410 PCP	W411 PCP	W2401 PCP	W2402 PCP	W2403 PCP
1987	2,100	1,600	18,000	5,600	9,400	38	5 U	9,400	15,000	160	690	---	---	---
1988	2,000	1,300	9,300	6,300	4,500	12	5 U	5,000	18,000	280	---	16,000	17,000	6,900
1989	56		1,500	9,000	7,000	5 U	---	5,600	8,900	12,000	---	---		4,500
1990	2,500	1,600	790	---	5,500	---	---	6,200	8,700	80	---	---	1,100	3,000
1991	1,600	1,600	1,200	---	1,500	10 U	---	5,300	6,600	10 U	---	---	720	3,000
1992	1,500	1,100	560	---	840	---	---	3,800	6,200	5 U	---	---	580	3,400
1993	970	810	300	---	6,000	5 U	5 U	4,400	4,800	5 U	---	4,200	450	2,800
1994	2,000	2,200	320	---	6,500	5 U	5 U	3,100	3,700	7	---	3,800	280	1,900
1995	890	1,200	190	---	5,300	5 U	5 U	1,300	2,100	14	---	1,800	220	1,600
1996	---	---	---	---	---	---	---	2,000	---	---	---	---	---	---
1997	1,000	950	560	---	5,300	58	50 U	2,000	5,000	50 U	---	5,700	1,000	2,200
1998	---	---	---	---	---	---	---	1,200	---	---	---	---	---	---
1999	1,200	1,300	640	---	7,000	50 U	50 U	1,800	2,900	50	350	4,400	1,400	3,500
2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2001	1,700	2,100	530	---	7,400	24 U	24 U	1,200	3,600	47	14	3,200	340	3,000
2002	---	---	---	---	---	---	---	440	---	---	---	---	---	---
2003	1,700	250	400	---	7,500	0.5 U	0.5 U	700	1,700	3	12	3,100	0.5 U	1,800
2004	---	---	---	---	---	---	---	450	---	---	---	---	---	---
2005	2,200	950	820	---	9,900	0.5 U	0.5 U	820	1,900	20 U	17	2,900	220	2,100
2006	1,300	88	450	---	7,700	0.13 U	0.13 U	660	2,100	36	31	4,200	370	1,700
2007	1,500	960	450	---	7,200	0.13 U	0.13 U	580	1,800	30	11	4,900	250	2,300
2008	1800 H	1300 H	460 JH	--	11000	2.5 UH	0.080 UH	640 <sup>1</sup>	2,000	110 H	15	4500 JH	110 H	2100 H
2009	---	---	---	---	---	---	---	---	---	---	---	---	---	---

PCP - Pentachlorophenol concentration

--- No sample collected or analyzed.

U Value is non-detect at the method reporting limit.

\* Estimated value, QA/QC criteria not met.

H EPA recommended sample preservation, extraction or analysis holding time was exceeded.

J Reported value is less than the stated laboratory quantitation limit and is considered an estimated value.

<sup>1</sup> Concentration from duplicate sample selected.

**Table 24**  
**Water Quality Data - Pentachlorophenol**  
**Groundwater Treatment System**  
**St. Regis Paper Company Site**

Sample Date	Influent	Primary	Secondary	Effluent	Effluent Limitation
		<b>ADSC</b>	<b>ADSA</b>	<b>ADSB</b>	
01/05/2009	2300 ug/l	1600 ug/l	0.91 ug/l	< 0.080 ug/l	5.5
02/04/2009	1600 ug/l	1200 ug/l	15 ug/l	< 0.16 ug/l	5.5
03/04/2009	2000 ug/l	1500 ug/l	87 ug/l	< 0.16 ug/l	5.5
		<b>ADSA</b>	<b>ADSB</b>	<b>ADSC</b>	
04/06/2009	1800 ug/l	470 ug/l	< 0.16 ug/l	< 0.16 ug/l	5.5
05/05/2009	1700 ug/l	700 ug/l	< 0.16 ug/l	< 0.16 ug/l	5.5
06/03/2009	1600 ug/l	640 ug/l	< 0.16 ug/l	< 0.16 ug/l	5.5
		<b>ADSA</b>	<b>ADSB</b>	<b>ADSC</b>	
07/06/2009	1700 ug/l	1200 ug/l	< 0.16 ug/l	< 0.16 ug/l	5.5
08/04/2009	1600 ug/l	1400 ug/l	0.65 ug/l	< 0.16 ug/l	5.5
09/10/2009	1300 ug/l	1200 ug/l	4.1 ug/l	< 0.16 ug/l	5.5
		<b>ADSB</b>	<b>ADSC</b>	<b>ADSA</b>	
10/05/2009	1800 ug/l	300 ug/l	0.41 j ug/l	< 0.16 ug/l	5.5
		<b>ADSC</b>	<b>ADSA</b>	<b>ADSB</b>	
11/03/2009	1200 ug/l	43 ug/l	< 0.16 ug/l	< 0.16 ug/l	5.5
12/08/2009	1400 ug/l	620 ug/l	< 0.16 ug/l	< 0.16 ug/l	5.5

**Table 25**  
**Water Quality Data - Effluent**  
**Groundwater Treatment System**  
**St. Regis Paper Company Site**

Sys Loc Code				ADSB	ADSB	ADSB	ADSC
Sample Date				01/05/2009	02/04/2009	03/04/2009	04/06/2009
Sample Type Code				N	N	N	N
Chemical Name	Total or Dissolved	Analysis Location	Effluent Limitation				
<b>Effective Date</b>							
<b>Exceedance Key</b>			No Exceed				
<b>Metals</b>							
Arsenic	Total	Lab	53 ug/l	0.8 ug/l	0.7 ug/l	0.5 j ug/l	1.0 ug/l
Chromium	Total	Lab	11 CR ug/l	0.13 j ug/l	0.10 j ug/l	< 0.16 ug/l	< 0.32 ug/l
Copper	Total	Lab	13.6 ug/l	0.52 ug/l	0.51 ug/l	0.60 ug/l	0.64 ug/l
<b>SVOCs</b>							
2-Methylnaphthalene	NA	Lab		0.0033 j ug/l	< 0.0023 ug/l	< 0.0023 ug/l	0.0024 j ug/l
Acenaphthene	NA	Lab	12 ug/l	0.0075 j ug/l	< 0.0044 ug/l	< 0.0044 ug/l	0.013 j ug/l
Acenaphthylene	NA	Lab		< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l
Anthracene	NA	Lab	0.029 ug/l	0.0051 j ug/l	< 0.0036 ug/l	< 0.0036 ug/l	< 0.0036 ug/l
Benzo(a)anthracene	NA	Lab		0.0057 j ug/l	0.0050 j ug/l	0.0043 j ug/l	< 0.0065 ug/l
Benzo(a)pyrene	NA	Lab	0.02 ug/l	0.0052 j ug/l	< 0.0043 ug/l	< 0.0043 ug/l	< 0.0043 ug/l
Benzo(b)fluoranthene	NA	Lab		< 0.0056 ug/l	< 0.0023 ug/l	< 0.0023 ug/l	0.0033 j ug/l
Benzo(g,h,i)perylene	NA	Lab		0.023 ug/l	< 0.0029 ug/l	< 0.0029 ug/l	< 0.0029 ug/l
Benzo(k)fluoranthene	NA	Lab		0.0046 j ug/l	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l
Chrysene	NA	Lab		0.0051 j ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l
Dibenz(a,h)anthracene	NA	Lab		0.0060 j ug/l	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l
Fluoranthene	NA	Lab	20 ug/l	0.014 j ug/l	0.011 j ug/l	0.0067 j ug/l	0.017 j ug/l
Fluorene	NA	Lab		0.0083 j ug/l	0.0039 j ug/l	< 0.0038 ug/l	0.0080 j ug/l
Indeno(1,2,3-cd)pyrene	NA	Lab		< 0.010 ug/l	< 0.0026 ug/l	0.0027 j ug/l	< 0.0026 ug/l
Naphthalene	NA	Lab	81 ug/l	< 0.0030 ug/l	< 0.0030 ug/l	< 0.0030 ug/l	0.0060 j ug/l
Phenanthrene	NA	Lab	2.1 ug/l	0.012 j ug/l	0.0056 j ug/l	0.0061 j ug/l	0.012 j ug/l
Pyrene	NA	Lab		0.011 j ug/l	0.0073 j ug/l	0.0049 j ug/l	0.012 j ug/l
Pentachlorophenol	NA	Lab	5.5 ug/l	< 0.080 ug/l	< 0.16 ug/l	< 0.16 ug/l	< 0.16 ug/l
<b>VOCs</b>							
Benzene	NA	Lab	114 ug/l	< 0.045 ug/l	< 0.045 ug/l	< 0.045 ug/l	< 0.045 ug/l
Ethyl benzene	NA	Lab	68 ug/l	< 0.042 ug/l	< 0.042 ug/l	< 0.042 ug/l	< 0.042 ug/l
Toluene	NA	Lab	253 ug/l	< 0.048 ug/l	< 0.048 ug/l	< 0.51 ug/l	< 0.22 ug/l
Xylene m & p	NA	Lab	166 ug/l	< 0.078 ug/l	< 0.078 ug/l	< 0.078 ug/l	< 0.078 ug/l
Xylene, o-	NA	Lab	166 ug/l	< 0.037 ug/l	< 0.040 ug/l	< 0.037 ug/l	< 0.037 ug/l
<b>Total Petroleum Hydrocarbons</b>							
Diesel Range Organics	NA	Lab	200 ug/l	--	--	--	--
Diesel Range Organics-silica gel cleanup	NA	Lab	200 ug/l	< 18 ug/l	< 15 ug/l	23 j ug/l	18 j ug/l
<b>Chlorinated Dioxins / Furans</b>							
2,3,7,8-Dioxin, tetra	NA	Lab	0.0038 pg/l	--	< 0.270 pg/l	--	--
1,2,3,7,8-Dioxin penta	NA	Lab	0.0084 pg/l	--	< 0.320 pg/l	--	--
1,2,3,4,7,8-Dioxin, hexa	NA	Lab	0.1267 pg/l	--	< 0.306 pg/l	--	--
1,2,3,6,7,8-Dioxin, hexa	NA	Lab	0.38 pg/l	--	< 0.270 pg/l	--	--
1,2,3,7,8,9-Dioxin, hexa	NA	Lab	0.38 pg/l	--	< 0.294 pg/l	--	--
1,2,3,4,6,7,8-Dioxin, hepta	NA	Lab	7.6 pg/l	--	< 6.47 pg/l	--	--
Dioxin octa	NA	Lab	380 pg/l	--	< 56.5 pg/l	--	--
2,3,7,8-Dibenzofuran, tetra	NA	Lab	0.0475 pg/l	--	< 0.368 pg/l	--	--
1,2,3,7,8-Dibenzofuran, penta	NA	Lab	0.38 pg/l	--	< 0.298 pg/l	--	--
2,3,4,7,8-Dibenzofuran, penta	NA	Lab	0.00475 pg/l	--	< 0.295 pg/l	--	--
1,2,3,4,7,8-Dibenzofuran, hexa	NA	Lab	0.475 pg/l	--	< 0.233 pg/l	--	--
1,2,3,6,7,8-Dibenzofuran, hexa	NA	Lab	0.19 pg/l	--	< 0.223 pg/l	--	--
1,2,3,7,8,9-Dibenzofuran, hexa	NA	Lab	0.0633 pg/l	--	< 0.291 pg/l	--	--
2,3,4,6,7,8-Dibenzofuran, hexa	NA	Lab	0.0543 pg/l	--	< 0.250 pg/l	--	--
1,2,3,4,6,7,8-Dibenzofuran, hepta	NA	Lab	38 pg/l	--	< 0.854 pg/l	--	--
1,2,3,4,7,8,9-Dibenzofuran, hepta	NA	Lab	0.95 pg/l	--	< 0.403 pg/l	--	--
Dibenzofuran octa	NA	Lab	190 pg/l	--	< 4.62 pg/l	--	--

CR Displayed as the value for hexavalent chromium.

**Table 25**  
**Water Quality Data - Effluent**  
**Groundwater Treatment System**  
**St. Regis Paper Company Site**

Sys Loc Code				ADSC	ADSC	ADSC	ADSC
Sample Date				05/05/2009	06/03/2009	07/06/2009	08/04/2009
Sample Type Code				N	N	N	N
Chemical Name	Total or Dissolved	Analysis Location	Effluent Limitation				
<b>Effective Date</b>							
<b>Exceedance Key</b>			No Exceed				
<b>Metals</b>							
Arsenic	Total	Lab	53 ug/l	0.7 ug/l	0.5 j ug/l	0.5 ug/l	0.43 j ug/l
Chromium	Total	Lab	11 CR ug/l	0.67 ug/l	< 0.08 ug/l	< 0.11 ug/l	0.04 j ug/l
Copper	Total	Lab	13.6 ug/l	0.43 ug/l	0.27 ug/l	0.62 ug/l	0.63 ug/l
<b>SVOCs</b>							
2-Methylnaphthalene	NA	Lab		< 0.0023 ug/l	< 0.0028 ug/l	< 0.0023 ug/l	< 0.0023 ug/l
Acenaphthene	NA	Lab	12 ug/l	0.0055 j ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l
Acenaphthylene	NA	Lab		< 0.0034 ug/l	< 0.0036 ug/l	< 0.0034 ug/l	< 0.0034 ug/l
Anthracene	NA	Lab	0.029 ug/l	< 0.0036 ug/l	< 0.0073 ug/l	< 0.0036 ug/l	0.0038 j ug/l
Benzo(a)anthracene	NA	Lab		0.0036 j ug/l	< 0.0050 ug/l	< 0.0044 ug/l	< 0.0059 ug/l
Benzo(a)pyrene	NA	Lab	0.02 ug/l	< 0.0043 ug/l	< 0.0043 ug/l	< 0.0043 ug/l	0.0044 j ug/l
Benzo(b)fluoranthene	NA	Lab		< 0.0023 ug/l	< 0.0035 ug/l	< 0.0023 ug/l	< 0.0067 ug/l
Benzo(g,h,i)perylene	NA	Lab		< 0.0029 ug/l	< 0.0029 ug/l	< 0.0029 ug/l	< 0.017 ug/l
Benzo(k)fluoranthene	NA	Lab		< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l	0.0047 j ug/l
Chrysene	NA	Lab		< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	0.0051 j ug/l
Dibenz(a,h)anthracene	NA	Lab		< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0061 ug/l
Fluoranthene	NA	Lab	20 ug/l	0.0079 j ug/l	< 0.0085 ug/l	0.0049 j ug/l	0.010 j ug/l
Fluorene	NA	Lab		0.0056 j ug/l	< 0.0062 ug/l	< 0.0038 ug/l	0.0059 j ug/l
Indeno(1,2,3-cd)pyrene	NA	Lab		< 0.0026 ug/l	< 0.0026 ug/l	< 0.0026 ug/l	< 0.012 ug/l
Naphthalene	NA	Lab	81 ug/l	0.0075 j ug/l	< 0.0095 ug/l	< 0.0040 ug/l	< 0.0043 ug/l
Phenanthrene	NA	Lab	2.1 ug/l	0.0089 j ug/l	< 0.0098 ug/l	< 0.0050 ug/l	< 0.0091 ug/l
Pyrene	NA	Lab		0.0063 j ug/l	< 0.0079 ug/l	0.0055 j ug/l	0.0072 j ug/l
Pentachlorophenol	NA	Lab	5.5 ug/l	< 0.16 ug/l	< 0.16 ug/l	< 0.16 ug/l	< 0.16 ug/l
<b>VOCs</b>							
Benzene	NA	Lab	114 ug/l	< 0.045 ug/l	< 0.038 ug/l	< 0.038 ug/l	< 0.050 ug/l
Ethyl benzene	NA	Lab	68 ug/l	< 0.042 ug/l	< 0.050 ug/l	< 0.050 ug/l	< 0.050 ug/l
Toluene	NA	Lab	253 ug/l	< 0.43 ug/l	< 0.29 ug/l	< 0.18 ug/l	0.29 j ug/l
Xylene m & p	NA	Lab	166 ug/l	< 0.078 ug/l	< 0.091 ug/l	< 0.091 ug/l	< 0.091 ug/l
Xylene, o-	NA	Lab	166 ug/l	< 0.037 ug/l	< 0.074 ug/l	< 0.074 ug/l	< 0.074 ug/l
<b>Total Petroleum Hydrocarbons</b>							
Diesel Range Organics	NA	Lab	200 ug/l	--	--	--	--
Diesel Range Organics-silica gel cleanup	NA	Lab	200 ug/l	< 15 ug/l	< 15 ug/l	< 15 ug/l	< 28 ug/l
<b>Chlorinated Dioxins / Furans</b>							
2,3,7,8-Dioxin, tetra	NA	Lab	0.0038 pg/l	< 0.994 pg/l	--	--	< 0.435 pg/l
1,2,3,7,8-Dioxin penta	NA	Lab	0.0084 pg/l	< 0.481 pg/l	--	--	< 0.621 pg/l
1,2,3,4,7,8-Dioxin, hexa	NA	Lab	0.1267 pg/l	< 0.398 pg/l	--	--	< 0.663 pg/l
1,2,3,6,7,8-Dioxin, hexa	NA	Lab	0.38 pg/l	< 0.325 pg/l	--	--	< 0.630 pg/l
1,2,3,7,8,9-Dioxin, hexa	NA	Lab	0.38 pg/l	< 0.355 pg/l	--	--	< 0.649 pg/l
1,2,3,4,6,7,8-Dioxin, hepta	NA	Lab	7.6 pg/l	< 2.86 pg/l	--	--	6.16 EMPC pg/l
Dioxin octa	NA	Lab	380 pg/l	< 38.1 pg/l	--	--	38.7 j pg/l
2,3,7,8-Dibenzofuran, tetra	NA	Lab	0.0475 pg/l	< 0.933 pg/l	--	--	< 0.475 pg/l
1,2,3,7,8-Dibenzofuran, penta	NA	Lab	0.38 pg/l	< 0.322 pg/l	--	--	< 0.392 pg/l
2,3,4,7,8-Dibenzofuran, penta	NA	Lab	0.00475 pg/l	< 0.315 pg/l	--	--	< 0.378 pg/l
1,2,3,4,7,8-Dibenzofuran, hexa	NA	Lab	0.475 pg/l	< 0.269 pg/l	--	--	< 0.379 pg/l
1,2,3,6,7,8-Dibenzofuran, hexa	NA	Lab	0.19 pg/l	< 0.252 pg/l	--	--	< 0.373 pg/l
1,2,3,7,8,9-Dibenzofuran, hexa	NA	Lab	0.0633 pg/l	< 0.309 pg/l	--	--	< 0.454 pg/l
2,3,4,6,7,8-Dibenzofuran, hexa	NA	Lab	0.0543 pg/l	< 0.284 pg/l	--	--	< 0.403 pg/l
1,2,3,4,6,7,8-Dibenzofuran, hepta	NA	Lab	38 pg/l	< 0.311 pg/l	--	--	1.45 j pg/l
1,2,3,4,7,8,9-Dibenzofuran, hepta	NA	Lab	0.95 pg/l	< 0.411 pg/l	--	--	< 0.631 pg/l
Dibenzofuran octa	NA	Lab	190 pg/l	< 2.84 pg/l	--	--	6.27 j pg/l

CR Displayed as the value for hexavalent chromium.

**Table 25  
Water Quality Data - Effluent  
Groundwater Treatment System  
St. Regis Paper Company Site**

Sys Loc Code				ADSC	ADSA	ADSB	ADSB
Sample Date				09/10/2009	10/05/2009	11/03/2009	12/08/2009
Sample Type Code				N	N	N	N
Chemical Name	Total or Dissolved	Analysis Location	Effluent Limitation				
<b>Effective Date</b>							
<b>Exceedance Key</b>			No Exceed				
<b>Metals</b>							
Arsenic	Total	Lab	53 ug/l	0.65 ug/l	0.77 ug/l	1.51 ug/l	0.55 ug/l
Chromium	Total	Lab	11 CR ug/l	0.06 j ug/l	< 0.09 ug/l	< 0.04 ug/l	0.37 ug/l
Copper	Total	Lab	13.6 ug/l	0.66 ug/l	0.91 ug/l	0.41 ug/l	0.71 ug/l
<b>SVOCs</b>							
2-Methylnaphthalene	NA	Lab		< 0.020 ug/l	< 0.019 ug/l	< 0.0023 ug/l	< 0.0023 ug/l
Acenaphthene	NA	Lab	12 ug/l	< 0.020 ug/l	0.019 j ug/l	0.0069 j ug/l	< 0.0044 ug/l
Acenaphthylene	NA	Lab		< 0.020 ug/l	< 0.019 ug/l	< 0.0034 ug/l	< 0.0034 ug/l
Anthracene	NA	Lab	0.029 ug/l	< 0.020 ug/l	0.0054 j ug/l	< 0.0036 ug/l	< 0.0036 ug/l
Benzo(a)anthracene	NA	Lab		< 0.020 ug/l	0.0068 j ug/l	0.0026 j ug/l	0.0038 j ug/l
Benzo(a)pyrene	NA	Lab	0.02 ug/l	< 0.020 ug/l	< 0.019 ug/l	< 0.0043 ug/l	< 0.0043 ug/l
Benzo(b)fluoranthene	NA	Lab		0.0042 j ug/l	0.0038 j ug/l	< 0.0023 ug/l	< 0.0023 ug/l
Benzo(g,h,i)perylene	NA	Lab		< 0.0034 ug/l	< 0.0031 ug/l	< 0.0029 ug/l	< 0.0029 ug/l
Benzo(k)fluoranthene	NA	Lab		0.0027 j ug/l	< 0.019 ug/l	< 0.0025 ug/l	< 0.0025 ug/l
Chrysene	NA	Lab		< 0.020 ug/l	0.0043 j ug/l	< 0.0034 ug/l	< 0.0034 ug/l
Dibenz(a,h)anthracene	NA	Lab		< 0.020 ug/l	< 0.019 ug/l	< 0.0025 ug/l	< 0.0025 ug/l
Fluoranthene	NA	Lab	20 ug/l	0.010 j ug/l	0.028 ug/l	0.0051 j ug/l	0.0075 j ug/l
Fluorene	NA	Lab		< 0.020 ug/l	0.017 j ug/l	0.0062 j ug/l	< 0.0038 ug/l
Indeno(1,2,3-cd)pyrene	NA	Lab		< 0.020 ug/l	< 0.019 ug/l	< 0.0026 ug/l	< 0.0026 ug/l
Naphthalene	NA	Lab	81 ug/l	< 0.020 ug/l	0.0045 j ug/l	< 0.0030 ug/l	0.012 j ug/l
Phenanthrene	NA	Lab	2.1 ug/l	< 0.020 ug/l	0.021 ug/l	0.0071 j ug/l	0.0072 j ug/l
Pyrene	NA	Lab		0.0070 j ug/l	0.017 j ug/l	0.0044 j ug/l	0.0037 j ug/l
Pentachlorophenol	NA	Lab	5.5 ug/l	< 0.16 ug/l	< 0.16 ug/l	< 0.16 ug/l	< 0.16 ug/l
<b>VOCs</b>							
Benzene	NA	Lab	114 ug/l	< 0.50 ug/l	< 0.50 ug/l	< 0.040 ug/l	< 0.038 ug/l
Ethyl benzene	NA	Lab	68 ug/l	< 0.50 ug/l	< 0.50 ug/l	< 0.050 ug/l	< 0.050 ug/l
Toluene	NA	Lab	253 ug/l	< 0.50 ug/l	< 0.48 j ug/l	< 0.052 ug/l	< 0.052 ug/l
Xylene m & p	NA	Lab	166 ug/l	< 0.50 ug/l	< 0.50 ug/l	< 0.091 ug/l	< 0.091 ug/l
Xylene, o-	NA	Lab	166 ug/l	< 0.50 ug/l	< 0.50 ug/l	< 0.074 ug/l	< 0.074 ug/l
<b>Total Petroleum Hydrocarbons</b>							
Diesel Range Organics	NA	Lab	200 ug/l	--	--	< 17 ug/l	--
Diesel Range Organics-silica gel cleanup	NA	Lab	200 ug/l	< 50 ug/l	<29 ug/l	--	< 16 ug/l
<b>Chlorinated Dioxins / Furans</b>							
2,3,7,8-Dioxin, tetra	NA	Lab	0.0038 pg/l	--	--	< 0.955 pg/l	--
1,2,3,7,8-Dioxin penta	NA	Lab	0.0084 pg/l	--	--	< 1.30 pg/l	--
1,2,3,4,7,8-Dioxin, hexa	NA	Lab	0.1267 pg/l	--	--	< 1.06 pg/l	--
1,2,3,6,7,8-Dioxin, hexa	NA	Lab	0.38 pg/l	--	--	< 0.958 pg/l	--
1,2,3,7,8,9-Dioxin, hexa	NA	Lab	0.38 pg/l	--	--	< 1.02 pg/l	--
1,2,3,4,6,7,8-Dioxin, hepta	NA	Lab	7.6 pg/l	--	--	< 1.43 pg/l	--
Dioxin octa	NA	Lab	380 pg/l	--	--	< 19.7 pg/l	--
2,3,7,8-Dibenzofuran, tetra	NA	Lab	0.0475 pg/l	--	--	< 1.06 pg/l	--
1,2,3,7,8-Dibenzofuran, penta	NA	Lab	0.38 pg/l	--	--	< 0.895 pg/l	--
2,3,4,7,8-Dibenzofuran, penta	NA	Lab	0.00475 pg/l	--	--	< 0.886 pg/l	--
1,2,3,4,7,8-Dibenzofuran, hexa	NA	Lab	0.475 pg/l	--	--	< 0.752 pg/l	--
1,2,3,6,7,8-Dibenzofuran, hexa	NA	Lab	0.19 pg/l	--	--	< 0.719 pg/l	--
1,2,3,7,8,9-Dibenzofuran, hexa	NA	Lab	0.0633 pg/l	--	--	< 0.963 pg/l	--
2,3,4,6,7,8-Dibenzofuran, hexa	NA	Lab	0.0543 pg/l	--	--	< 0.822 pg/l	--
1,2,3,4,6,7,8-Dibenzofuran, hepta	NA	Lab	38 pg/l	--	--	< 0.874 pg/l	--
1,2,3,4,7,8,9-Dibenzofuran, hepta	NA	Lab	0.95 pg/l	--	--	< 1.22 pg/l	--
Dibenzofuran octa	NA	Lab	190 pg/l	--	--	< 2.26 pg/l	--

CR Displayed as the value for hexavalent chromium.

**Table 26**  
**2009 Monthly Volume**  
**Groundwater Treatment System**  
**St. Regis Paper Company and City Dump Site**

<b>Month</b>	<b>Flow (10<sup>6</sup> gallons)</b>
Jan-09	5.2
Feb-09	4.9
Mar-09	5.1
Apr-09	4.8
May-09	4.9
Jun-09	4.9
Jul-09	5.0
Aug-09	4.6
Sep-09	5.2
Oct-09	5.4
Nov-09	5.2
Dec-09	5.4
<b>Total</b>	<b>60.8</b>

**Table 27**  
**2009 Average Effluent pH**  
**Groundwater Treatment System**  
**St. Regis Paper Company and City Dump Sites**

<b>Month</b>	<b>pH</b>
Jan-09	6.9
Feb-09	7.0
Mar-09	7.0
Apr-09	7.0
May-09	7.0
Jun-09	7.0
Jul-09	7.0
Aug-09	7.0
Sep-09	6.9
Oct-09	6.9
Nov-09	6.9
Dec-09	7.0
<b>Average</b>	<b>7.0</b>

**Table 28**  
**Groundwater Quality Data - Lower Aquifer**  
**Fish Hatchery Wells**  
**St. Regis Paper Company Site**

Chemical Name	Sys Loc Code			Fish4	Fish4-1	Fish4-2		Fish4-3
	Total or Dissolved	Analysis Location	Drinking Water Criteria	05/14/2009	10/03/2009	10/05/2009		10/07/2009
				N	N	N	FD	N
<b>Effective Date</b>								
<b>Exceedance Key</b>			No Exceed					
Benzo(a)anthracene	NA	Lab		< 0.0026 ug/l	< 0.0026 ug/l	0.0030 j ug/l	< 0.0026 ug/l	< 0.0026 ug/l
Chrysene	NA	Lab		< 0.0034 ug/l				
Benzo(b)fluoranthene	NA	Lab		< 0.0023 ug/l	< 0.0023 ug/l	0.0025 j ug/l	< 0.0023 ug/l	< 0.0023 ug/l
Benzo(k)fluoranthene	NA	Lab		< 0.0025 ug/l				
Benzo(a)pyrene	NA	Lab		0.0054 j ug/l	< 0.0043 ug/l	< 0.0043 ug/l	< 0.0043 ug/l	< 0.0043 ug/l
Indeno(1,2,3-cd)pyrene	NA	Lab		< 0.0026 ug/l	< 0.0026 ug/l	0.0036 j ug/l	< 0.0026 ug/l	< 0.0026 ug/l
Dibenz(a,h)anthracene	NA	Lab		< 0.0025 ug/l	< 0.0025 ug/l	0.0040 j ug/l	< 0.0025 ug/l	< 0.0025 ug/l
BaP equivalent, non-detects at half of the detection limit. <sup>1</sup>	NA	Lab	0.2 ug/l	0.0066 a ug/l	<0.0034 ug/l	0.0054 a ug/l	<0.0034 ug/l	<0.0034 ug/l
BaP equivalent, non-detects at zero for the detection limit. <sup>2</sup>	NA	Lab	0.2 ug/l	0.0054 a ug/l	ND ug/l	0.0032 a ug/l	ND ug/l	ND ug/l
2-Methylnaphthalene	NA	Lab		< 0.0023 ug/l				
Acenaphthene	NA	Lab	400 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l
Acenaphthylene	NA	Lab		< 0.0034 ug/l				
Anthracene	NA	Lab	2000 ug/l	< 0.0036 ug/l	< 0.0036 ug/l	< 0.0036 ug/l	< 0.0036 ug/l	< 0.0036 ug/l
Benzo(g,h,i)perylene	NA	Lab		< 0.0032 ug/l	< 0.0029 ug/l	< 0.0058 ug/l	< 0.0029 ug/l	< 0.0029 ug/l
Dibenzofuran	NA	Lab		< 0.0046 ug/l				
Fluoranthene	NA	Lab	300 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l
Fluorene	NA	Lab	300 ug/l	< 0.0038 ug/l	< 0.0038 ug/l	< 0.0038 ug/l	< 0.0038 ug/l	< 0.0038 ug/l
Naphthalene	NA	Lab	300 ug/l	< 0.0060 ug/l	< 0.0030 ug/l	< 0.012 ug/l	< 0.0030 ug/l	0.0060 j ug/l
Phenanthrene	NA	Lab		< 0.0050 ug/l				
Pyrene	NA	Lab	200 ug/l	< 0.0035 ug/l	< 0.0035 ug/l	< 0.0035 ug/l	< 0.0035 ug/l	< 0.0035 ug/l
Pentachlorophenol	NA	Lab	1 ug/l	< 0.16 ug/l	<0.16 ug/l	<0.16 ug/l	<0.16 ug/l	<0.16 ug/l

**Table 29**  
**Water Quality Data Over Time**  
**Fish Hatchery Wells**  
**Cass Lake, Minnesota**  
**(concentrations in ug/L)**

Year	Fish 1			Fish 2			Fish 3			Fish 4		
	BaP Eq	Naph.	PCP									
<b>DWC</b>	0.2	300	1	0.2	300	1	0.2	300	1	0.2	300	1
May-92	0.003 U	0.004 U	6 U	0.003 U	0.004 U	6 U	0.003 U	0.004 U	6 U	0.045 U	0.62	6 U
Dec-92	---	---	---	---	---	---	---	---	---	0.003 U	0.09	---
Jun-93	---	---	---	---	---	---	---	---	---	---	---	6 U
Jul-93	---	---	---	---	---	---	---	---	---	0.003 U	0.00958	---
Feb-94	---	---	---	---	---	---	---	---	---	0.089 U	0.666	6 U
Jun-94	---	---	---	---	---	---	---	---	---	0.089 U	1.11	3 U
Dec-94	---	---	---	---	---	---	---	---	---	0.003 U	0.012	3 U
Jun-95	0.003 U	0.003 U	3 U	0.003 U	0.003 U	3 U	0.003 U	0.005	3 U	0.3 U	2.6	3 U
Nov-95	---	---	---	---	---	---	---	---	---	0.0095 U	0.006 U	3 U
Jun-97	---	---	---	---	---	---	---	---	---	9.9 U	3	50 U
May-98	---	---	---	---	---	---	---	---	---	0.1 U	0.2	0.5 U
May-99	---	---	---	---	---	---	---	---	---	0.02 U	0.32	3 U
Apr-00	---	---	---	---	---	---	---	---	---	0.02 U	0.03	0.5 U
Apr-01	---	---	---	---	---	---	---	---	---	0.019 U	0.0019 U	0.5 U
May-02	---	---	---	---	---	---	---	---	---	0.02 U	0.02 U	3 U
May-03	---	---	---	---	---	---	---	---	---	0.02 U	0.02 U	0.5 U
Apr-04	---	---	---	---	---	---	---	---	---	0.019 U	0.019 U	0.95 U
May-05	---	---	---	---	---	---	---	---	---	0.02 U	0.02 U	0.5 U
Sep-06	0.004 U	0.0065 U	0.13 U	0.004 U	0.0065 U	0.13 U	0.004 U	0.065 U	0.13 U	0.004 U	0.0065 U	0.13 U
May-07	0.004 U	0.0065 U	0.13 U	0.004 U	0.0092 U	0.13 U	0.004 U	0.022 U	0.13 U	0.004 U	0.01 U	0.13 U
May-08	0.0034 U	0.017 U	0.080 U	0.0034 U	0.0080 U	0.080 U	0.0034 U	0.0097 U	0.080 U	0.0034 U	0.017 U	0.080 U
May-09	---	---	---	---	---	---	---	---	---	0.0066 A	0.0060 U	0.16 U
Oct-09	---	---	---	---	---	---	---	---	---	0.0034 U	0.0060 J	0.16 U

--- No sample collected or analyzed.

A Estimated value, calculated using some or all values that are estimates.

U Value is non-detect at the method reporting limit.

BaP Eq - Benzo(a)pyrene equivalency calculated at ND = 1/2 DL.

Naph. - Naphthalene concentration

PCP - Pentachlorophenol concentration

**Table 30  
Groundwater Quality Data - Shallow Surficial Aquifer  
MDNR Well #11016**

Sys Loc Code			DNR #11016
Sample Date			05/19/2009
Sample Type Code			N
Chemical Name	Total or Dissolved	Analysis Location	
<b>Effective Date</b>			
<b>Exceedance Key</b>			
Benzo(a)anthracene	NA	Lab	< 0.0081 ug/l
Chrysene	NA	Lab	0.0052 j ug/l
Benzo(b)fluoranthene	NA	Lab	0.0063 j ug/l
Benzo(k)fluoranthene	NA	Lab	< 0.0026 ug/l
Benzo(a)pyrene	NA	Lab	0.0058 j ug/l
Indeno(1,2,3-cd)pyrene	NA	Lab	0.0032 j ug/l
Dibenz(a,h)anthracene	NA	Lab	< 0.0026 ug/l
BaP equivalent, non-detects at half of the detection limit. <sup>1</sup>	NA	Lab	0.0081 a ug/l
BaP equivalent, non-detects at zero for the detection limit. <sup>2</sup>	NA	Lab	0.0068 a ug/l
2-Methylnaphthalene	NA	Lab	0.013 j ug/l
Acenaphthene	NA	Lab	0.021 j ug/l
Acenaphthylene	NA	Lab	< 0.0036 ug/l
Anthracene	NA	Lab	0.040 ug/l
Benzo(g,h,i)perylene	NA	Lab	< 0.0030 ug/l
Fluoranthene	NA	Lab	0.024 ug/l
Fluorene	NA	Lab	0.0098 j ug/l
Naphthalene	NA	Lab	0.075 ug/l
Phenanthrene	NA	Lab	0.035 ug/l
Pyrene	NA	Lab	0.028 ug/l
Pentachlorophenol	NA	Lab	< 0.16 ug/l

**Table 31**  
**Leachate Elevations**  
**OU2- Containment Vault**  
**St. Regis Paper Company and City Dump Pit Sites**

Date	Leachate Collection Manhole [ft MSL]	Leak Detection Manhole [ft MSL]
05/17/04	1313.32	1313.28
11/05/04	1313.34	1312.89
05/11/05	1313.36	1313.26
10/03/05	1313.53	1313.35
11/02/05	1313.28	1312.60
05/12/06	1313.78	1313.14
11/09/06	1313.46	1313.20
11/21/06	1312.42	1311.42
05/04/07	1313.66	1312.97
08/15/07	1313.76	1313.05
08/16/07	1312.35	1311.41
11/14/07	1313.56	1312.84
05/06/08	1313.40	1313.07
09/09/08	1312.44	1311.68
11/07/08	1313.68	1312.89
05/11/09	1313.80	1313.17
11/03/09	1313.73	1313.28

**Notes:**

LCM - Bottom elevation - 1312.19 ft MSL

LDM - Bottom elevation - 1311.20 ft MSL

MSL - Mean sea level based on NAVD88.

**Table 32**  
**Benchmark Elevations**  
**OU2 - Containment Vault Operable Unit**  
**St. Regis Paper Company Site**

[Elevations in Ft. MSL]

Date	BM-1 [ft MSL]	BM-2 [ft MSL]	BM-3 [ft MSL]	BM-4 [ft MSL]	BM-5 [ft MSL]
12/21/88	1341.41	1338.42	1338.89	1341.18	1338.83
04/08/91	1341.44	1338.46	1338.93	1341.21	1338.82
08/09/92	1341.43	1338.44	1338.93	1341.20	1338.83
10/07/93	1341.49	1338.56	1339.05	1341.17	1338.85
06/16/94	1341.69	1338.69	1339.17	1341.46	1338.98
06/09/95	1341.70	1338.74	1339.19	1341.47	1339.09
06/04/96	1341.69	1338.70	1339.18	1341.47	1339.08
06/04/97	1341.69	1338.72	1339.20		1339.09
05/01/98	1341.68	1338.67	1339.18	1341.46	1339.07
05/14/99	1341.68	1338.69	1339.17	1341.46	1339.06
04/06/00	1341.68	1338.68	1339.14	1341.46	1339.08
04/27/01	1341.67	1338.70	1339.17	1341.45	1339.06
05/06/02	1341.70	1338.70	1339.16	1341.45	1339.06
05/12/03	1341.68	1338.70	1339.18	1341.46	1339.07
04/28/04	1341.68	1338.72	1339.19	1341.46	1339.08
05/06/05	1341.69	1338.71	1339.18	1341.47	1339.07
09/08/06	1341.70	1338.72	1339.18	1341.47	1339.08
05/10/07	1341.69	1338.72	1339.18	1341.47	1339.07
05/23/08	1341.69	1338.71	1339.18	1341.46	1339.06
05/15/09	1341.68	1338.70	1339.17	1341.43	1339.06

MSL - Mean sea level based on NAVD88.





**Table 33  
Annual Sample Program - 2010  
Groundwater and Surface Water Monitoring  
St. Regis Paper Company and City Dump Pit Sites**

Operable Unit	Screened Interval	Station	Category	PCP		PAHs			BETX	DRO	Metals	Dioxins	Water Level (1)
				8270	8151	8270	8270-SIM	8270-SIM (Calif.)	8260	8015M	6020; 7195/6010B	8290	
Additional Wells	HatcheryWells	Fish 1	P		1		1						
		Fish 2	P		1		1						
		Fish 3	P		1		1						
		Fish 4	I		1		1						
<b>Number of Samples</b>				13	52	11	52	4	7	7		8	176
<b>Number of QC Samples</b>													
	Duplicates	5%		1	3	1	3	1	1	1		1	9
	Field Blanks	5%		1	3	1	3	1	1	1		1	--
	MS/MSD	5%		1	3	1	3	1	1	1		1	--
<b>Total Number of Samples</b>				16	61	14	61	7	10	10		11	185

**Notes:**

This table identifies the number of samples at each station over the year.

- (1) Water levels will be measured in during the spring and fall sampling event.
- (2) See Quarterly Sample Program (Table 36)
- (3) Collect sample, if no product present in water column.

**Category**

- I - Indicator Monitoring Station (Annual Sampling)
- P - Performance Monitoring Station (Biennial Sampling)
- PMC - Product Monitoring and Collection Station

**Table 34**  
**Quarterly Sample Program - 2010**  
**Groundwater and Surface Water Monitoring**  
**St. Regis Paper Company and City Dump Pit Sites**

Operable Unit	Screened Interval	Station	Category	PCP		PAHs			BETX	DRO	Dioxins	Water Level
				8270	8151	8270	8270-SIM	8270-SIM (Calif.)	8260	8015M	8290	
OU1- Treating Facility Area	Bottom of Surficial	W212	I		4		4		4	4	4	4
		W213	I		4		4		4	4	4	4
		W220	I		4		4		4	4	4	4
OU3 - City Dump Pit Site	Top of Surficial	W2128	I		4		4		4	4	4	4
	Bottom of Surficial	W2233	I		4		4		4	4	4	4
		W2236	I		4		4		4	4	4	4
	Lower Aquifer	W2336	I		4		4		4	4	4	4
<b>Number of Samples</b>				0	28	0	28	0	28	28	28	28
<b>Number of QC Samples <sup>(1)</sup></b>												
	Duplicates			0	2	0	2	0	3	3	3	2
	Field Blanks			0	2	0	2	0	3	3	3	--
	MS/MSD			0	2	0	2	0	3	3	3	--
<b>Total Number of Samples</b>				0	34	0	34	0	37	37	37	30

**Notes:**

This table identifies the number of samples at each station over the year.

<sup>(1)</sup> Number of QC samples as follows:

- PCP - 5%
- PAH - 5%
- BETX - 10%
- DRO - 10%
- Dioxins - 10%

**Category**

- I - Indicator Monitoring Station (Annual Sampling)
- P - Performance Monitoring Station (Biennial Sampling)
- PMC - Product Monitoring and Collection Station

**Table 35**  
**Monthly Sample Program - 2010**  
**Effluent and GAC Performance Monitoring Program**  
**St. Regis Paper Company and City Dump Pit Sites**

Month	PCP				PAHs	Metals <sup>(A)</sup>	BETX	DRO	Dioxins/furans
	8151M				8270-SIM	6020; 7195/6010B	8620	8015B	8290
	Influent	Primary	Secondary	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent
January	1	1	1	1	1	1	1	1	1
February	1	1	1	1	1	1	1	1	
March	P	1	1	1	1	1	1	1	
April	1	1	1	1	1	1	1	1	1
May	1	1	1	1	1	1	1	1	
June	1	1	1	1	1	1	1	1	
July	1	1	1	1	1	1	1	1	1
August	1	1	1	1	1	1	1	1	
September	1	1	1	1	1	1	1	1	
October	1	1	1	1	1	1	1	1	1
November	1	1	1	1	1	1	1	1	
December	1	1	1	1	1	1	1	1	
<b>Number of Samples</b>	47				12	12	12	12	4
<b>Number of QC Samples</b>									
Duplicate	5%	3			1	1	1	1	1
Field Blank	5%	3			1	1	1	1	1
MS/MSD	5%	3			1	1	1	1	1
Trip Blank <sup>(B)</sup>	--	--			--	--	12	--	--
<b>Total Number of Samples</b>	56				15	15	27	15	7

**Notes:**

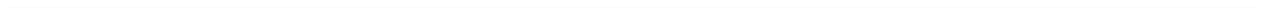
<sup>(A)</sup> Arsenic, Copper, & Chromium. If chromium exceeds 11 µg/L in any effluent sample, additional effluent samples will be collected and analyzed for hexavalent and trivalent chromium.

<sup>(B)</sup> One trip blank per event when BETX samples are collected.

Flow rate and pH are measured continuously.

Numbers indicate the number of samples during each event.

## Figures



Barr: Arcview 3.3, OPT16208, I:\Projects\2311005\gis\Projects\ann report march 04.apr. Layout: Fig 01 - Location Map. lrp. Thu Jan 05 11:15:07 2006

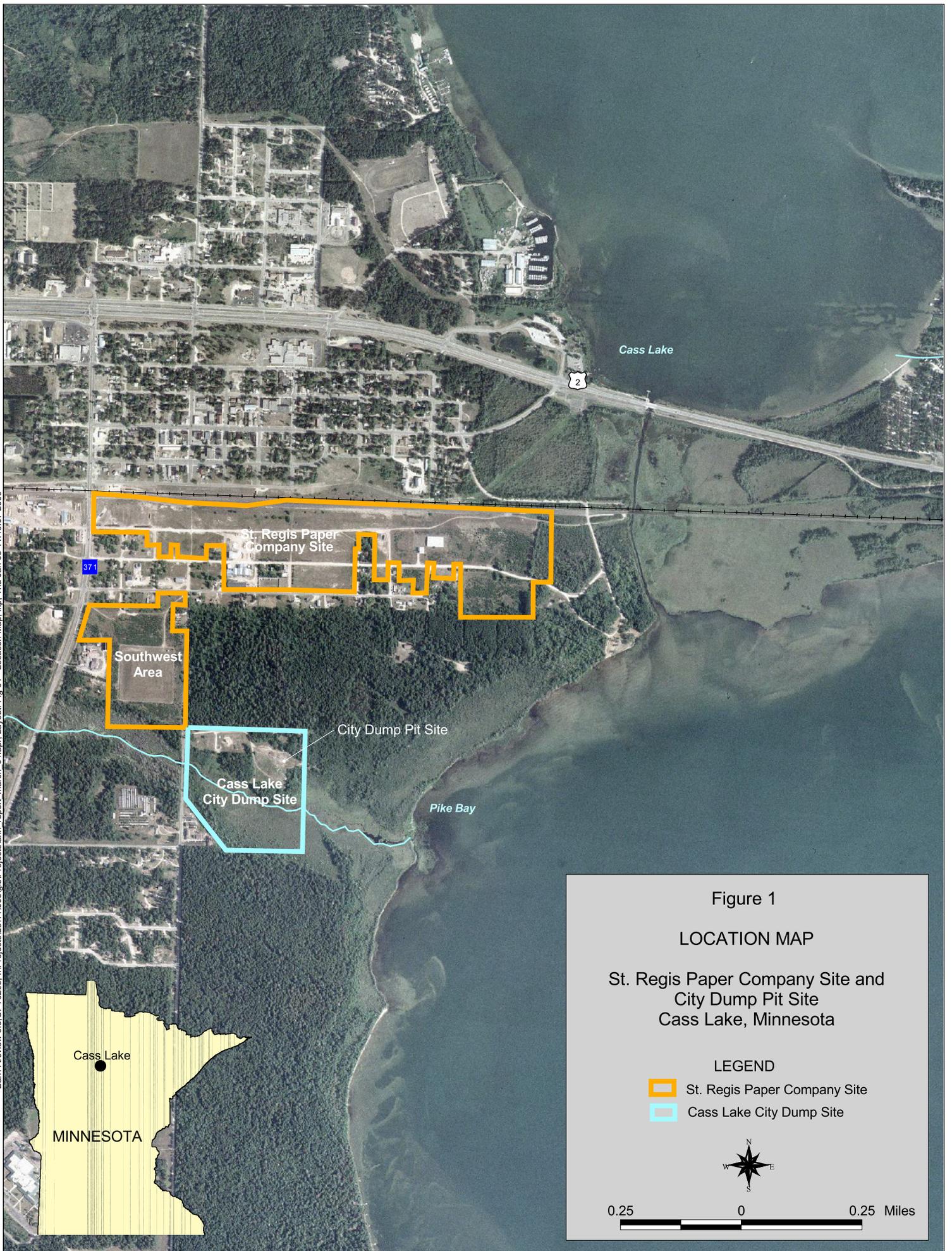


Figure 1

LOCATION MAP

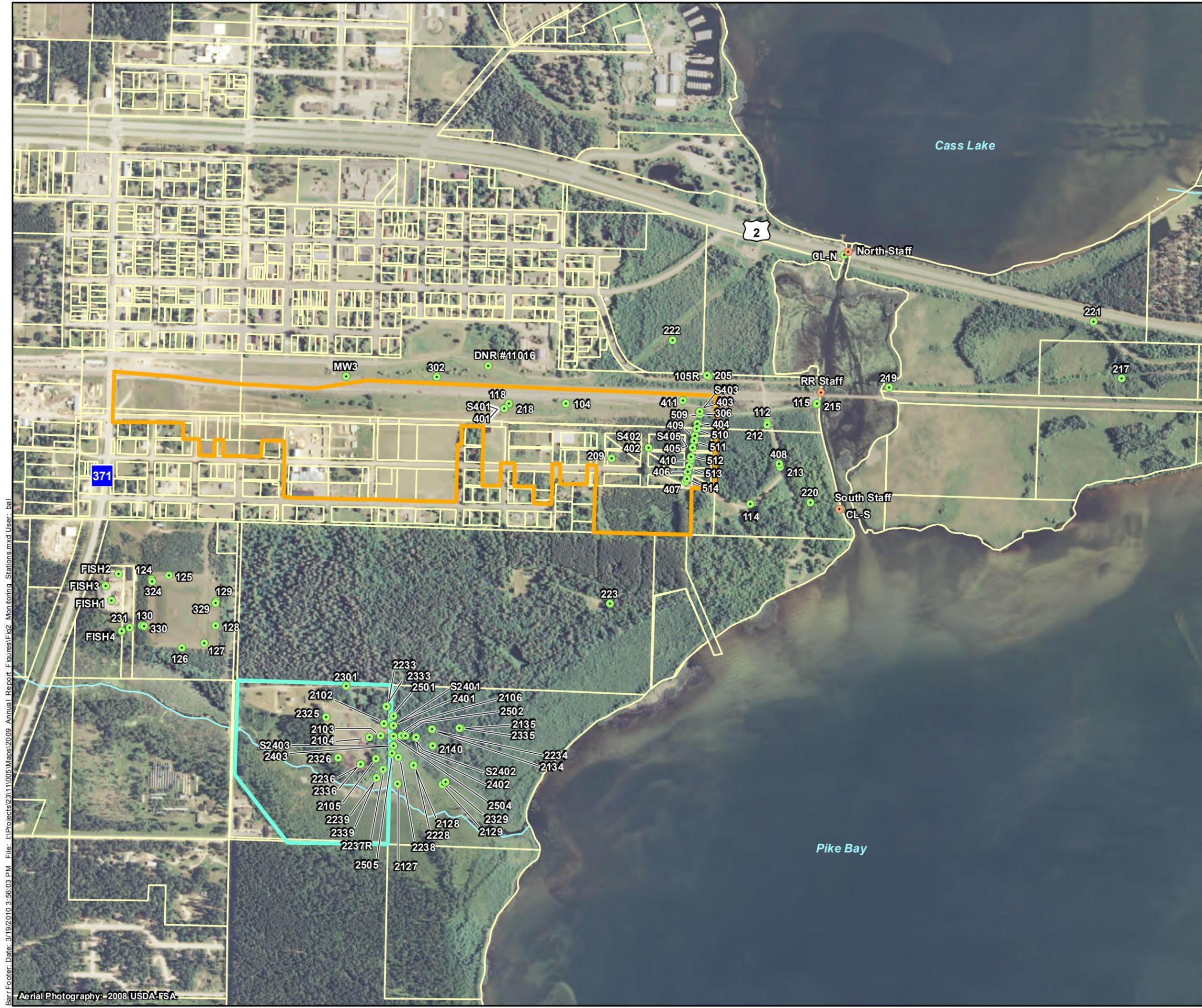
St. Regis Paper Company Site and  
City Dump Pit Site  
Cass Lake, Minnesota

LEGEND

-  St. Regis Paper Company Site
-  Cass Lake City Dump Site



0.25 0 0.25 Miles



- Groundwater Monitoring Stations
- Surface Water Monitoring Stations
- St. Regis Paper Co Site
- City Dump Area

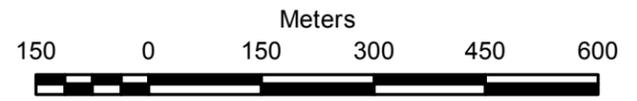
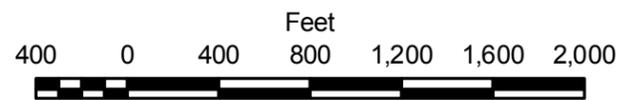
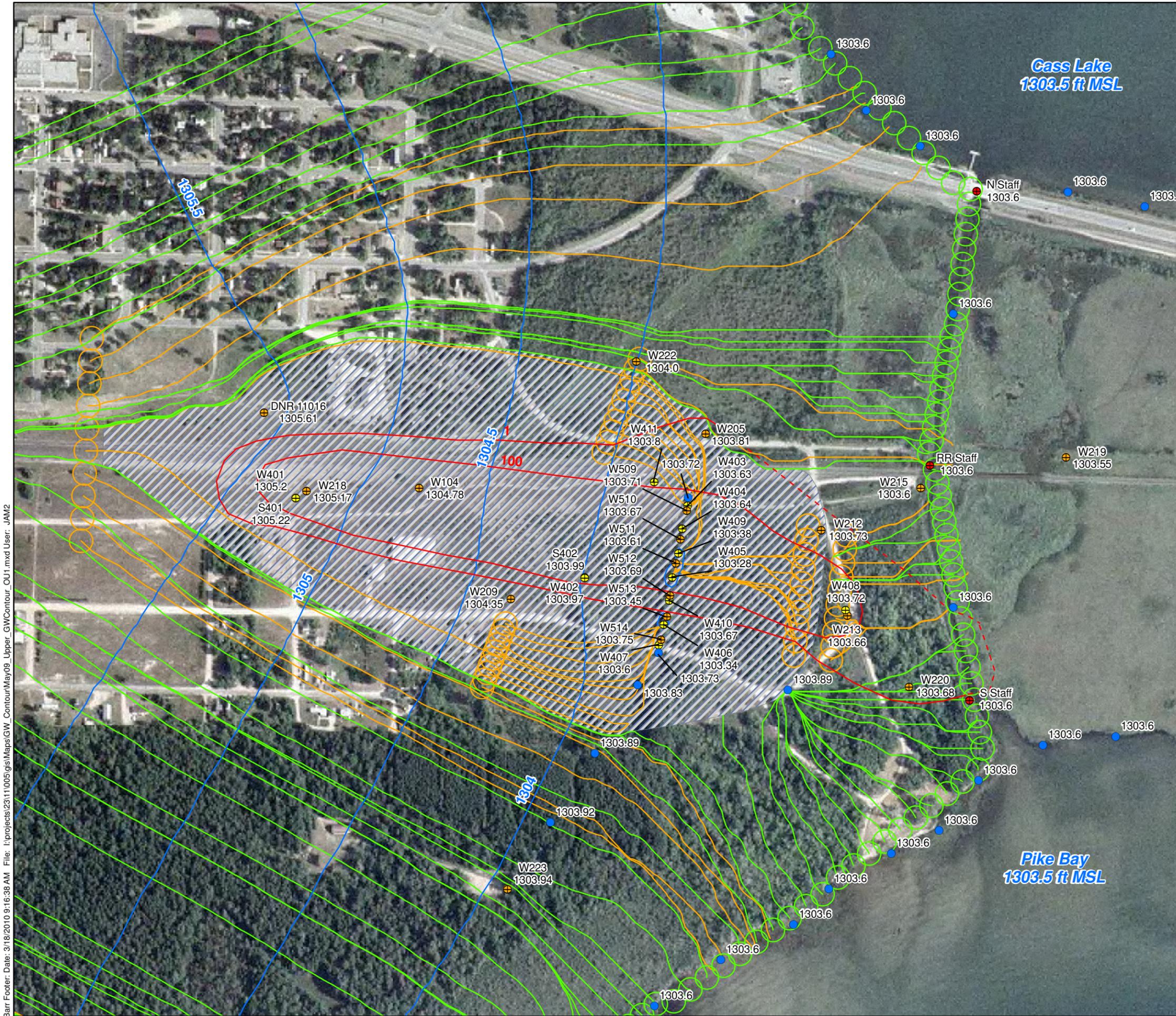


Figure 2  
 MONITORING STATIONS  
 St. Regis Paper Company Site  
 Cass Lake, MN

Barr Footer: Date: 3/19/2010 3:56:03 PM File: I:\Projects\2311005\Maps\2009 Annual Report\Figures\Fig2\_Monitoring Stations.mxd User: ba  
 Aerial Photography: 2008 USDA-FSA



- Extraction well (Control point based on measured elevation and extraction rate)
- Staff gauge
- Monitoring well/piezometer
- Control point
- Groundwater elevation contour (Contour interval = 0.5 ft)
- PCP concentration contour (ug/L) - May 2009 (Dashed where inferred)
- Groundwater flow path (reverse particle trace)
- Groundwater flow path (forward particle trace)
- Approximate hydraulic capture zone

Note: Only points used to generate contours shown on map

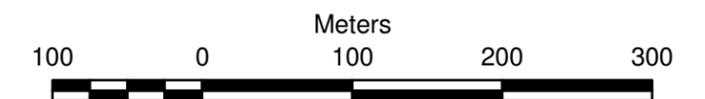
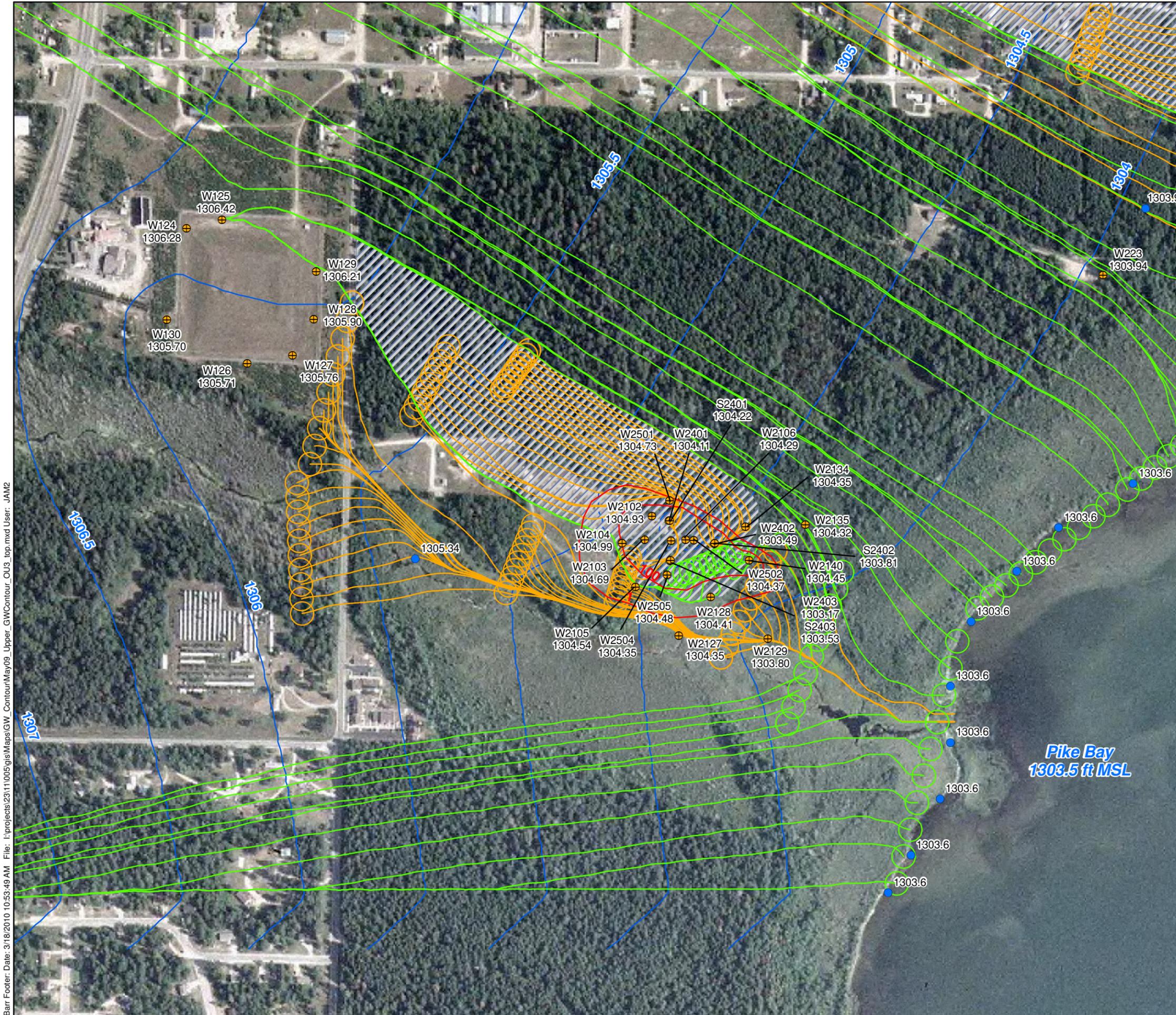
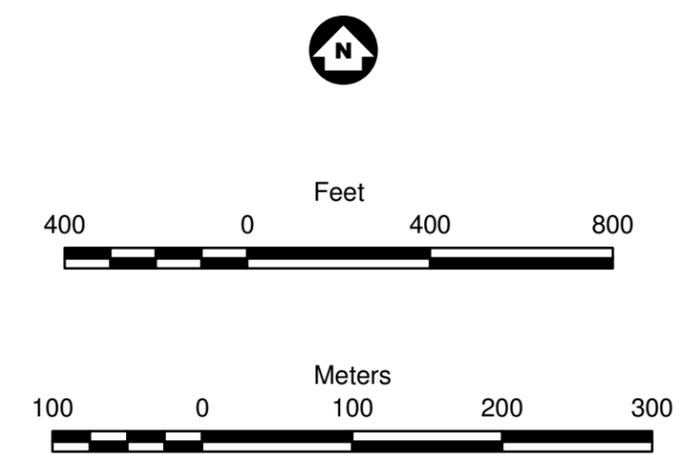


Figure 3  
 GROUNDWATER ELEVATIONS  
 SURFICIAL AQUIFER - OU1  
 MAY 8, 2009  
 St. Regis Paper Company Site  
 Cass Lake, Minnesota



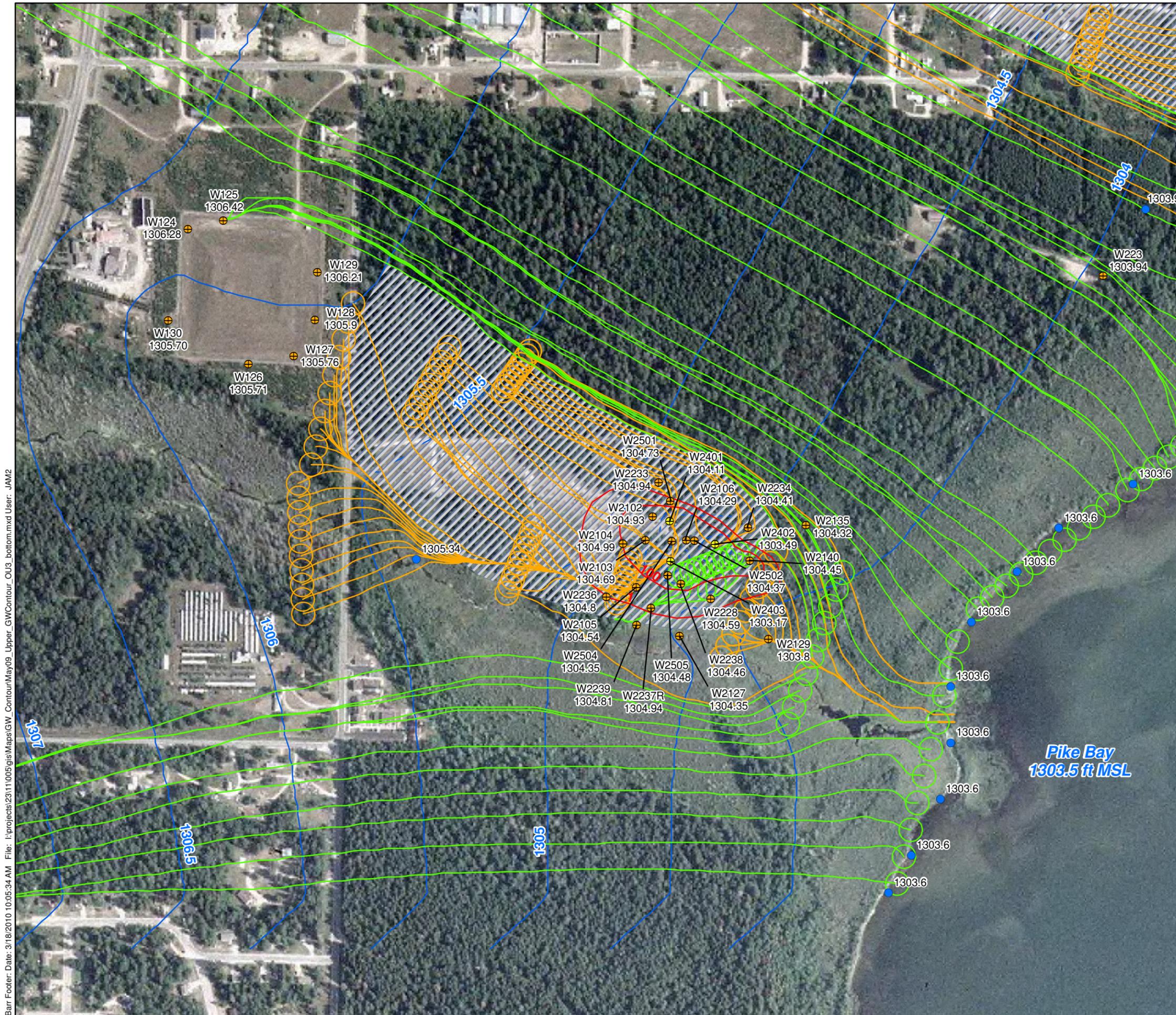
- Extraction well (Control point based on measured elevation and extraction rate)
- Staff gauge
- Monitoring well/piezometer
- Control point
- Groundwater elevation contour (Contour interval = 0.5 ft)
- PCP concentration contour (ug/L) - May 2009 (Dashed where inferred)
- Groundwater flow path (reverse particle trace)
- Groundwater flow path (forward particle trace)
- Approximate hydraulic capture zone

Note: Only points used to generate contours shown on map



Barr Footer: Date: 3/18/2010 10:53:49 AM File: I:\projects\2311005\gis\Maps\GW\_ContourMay09\_Upper\_GWContour\_OU3\_top.mxd User: JAM2

Figure 4  
 GROUNDWATER ELEVATIONS  
 TOP OF SURFICIAL AQUIFER - OU3  
 MAY 8, 2009  
 St. Regis Paper Company Site  
 Cass Lake, Minnesota



- Extraction well (Control point based on measured elevation and extraction rate)
- Staff gauge
- Monitoring well/piezometer
- Control point
- Groundwater elevation contour (Contour interval = 0.5 ft)
- PCP concentration contour (ug/L) - May 2009 (Dashed where inferred)
- Groundwater flow path (reverse particle trace)
- Groundwater flow path (forward particle trace)
- Approximate hydraulic capture zone

Note: Only points used to generate contours shown on map

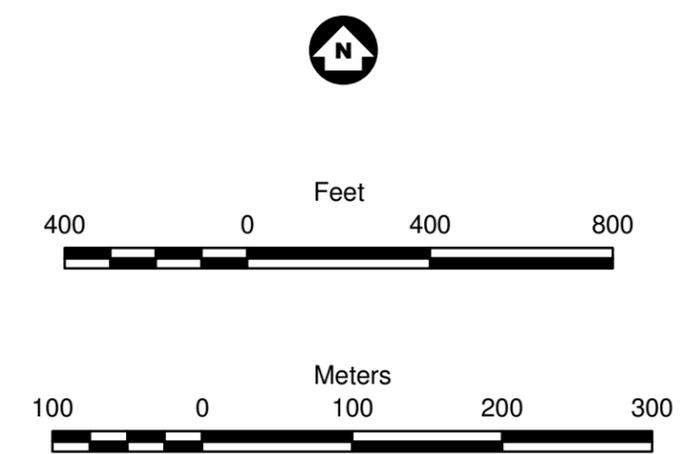


Figure 5  
 GROUNDWATER ELEVATIONS  
 BOTTOM OF SURFICIAL AQUIFER - OU3  
 MAY 8, 2009  
 St. Regis Paper Company Site  
 Cass Lake, Minnesota



-  Monitoring well/piezometer
-  Control point
-  Groundwater elevation contour (Contour interval = 0.5 ft)
-  Groundwater flow path (reverse particle trace)

Note: Only points used to generate contours shown on map

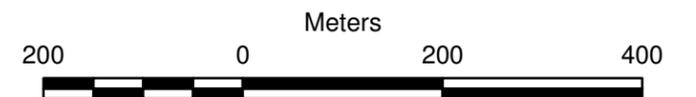
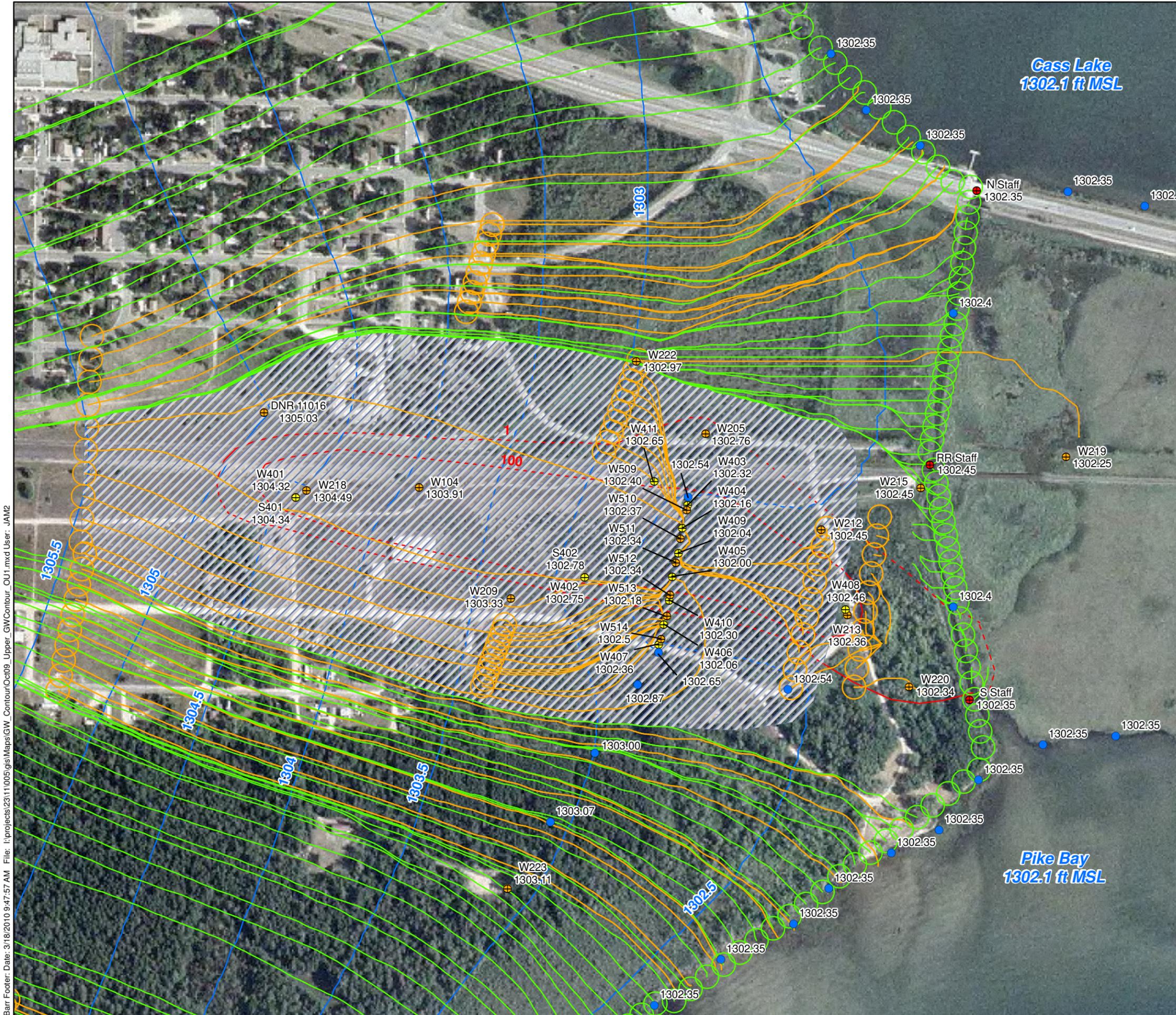


Figure 6

GROUNDWATER ELEVATIONS  
 LOWER AQUIFER  
 MAY 8, 2009  
 St. Regis Paper Company Site  
 Cass Lake, Minnesota



- Extraction well (Control point based on measured elevation and extraction rate)
- Staff gauge
- Monitoring well/piezometer
- Control point
- Groundwater elevation contour (Contour interval = 0.5 ft)
- PCP concentration contour (ug/L) - May 2009 (Dashed where inferred)
- Groundwater flow path (reverse particle trace)
- Groundwater flow path (forward particle trace)
- Approximate hydraulic capture zone

Note: Only points used to generate contours shown on map

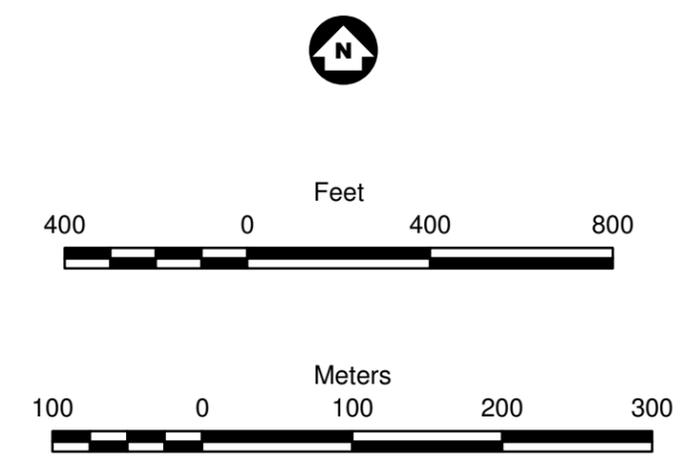


Figure 7  
 GROUNDWATER ELEVATIONS  
 SURFICIAL AQUIFER - OU1  
 OCTOBER 2, 2009  
 St. Regis Paper Company Site  
 Cass Lake, Minnesota



- Extraction well (Control point based on measured elevation and extraction rate)
- Staff gauge
- Monitoring well/piezometer
- Control point
- Groundwater elevation contour (Contour interval = 0.5 ft)
- PCP concentration contour (ug/L) - May 2009 (Dashed where inferred)
- Groundwater flow path (reverse particle trace)
- Groundwater flow path (forward particle trace)
- Approximate hydraulic capture zone

Note: Only points used to generate contours shown on map

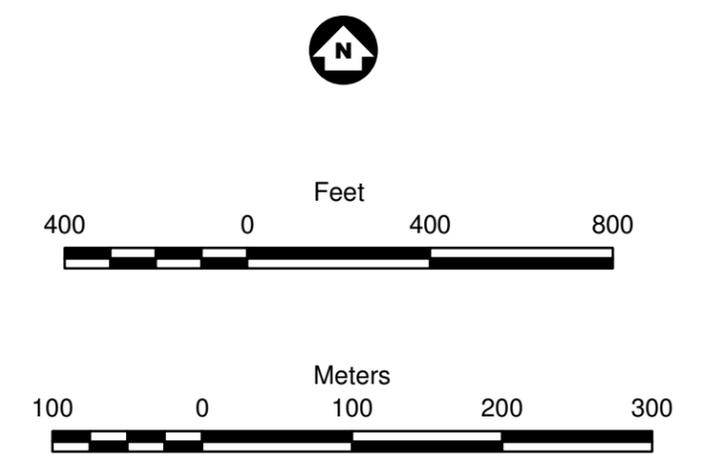
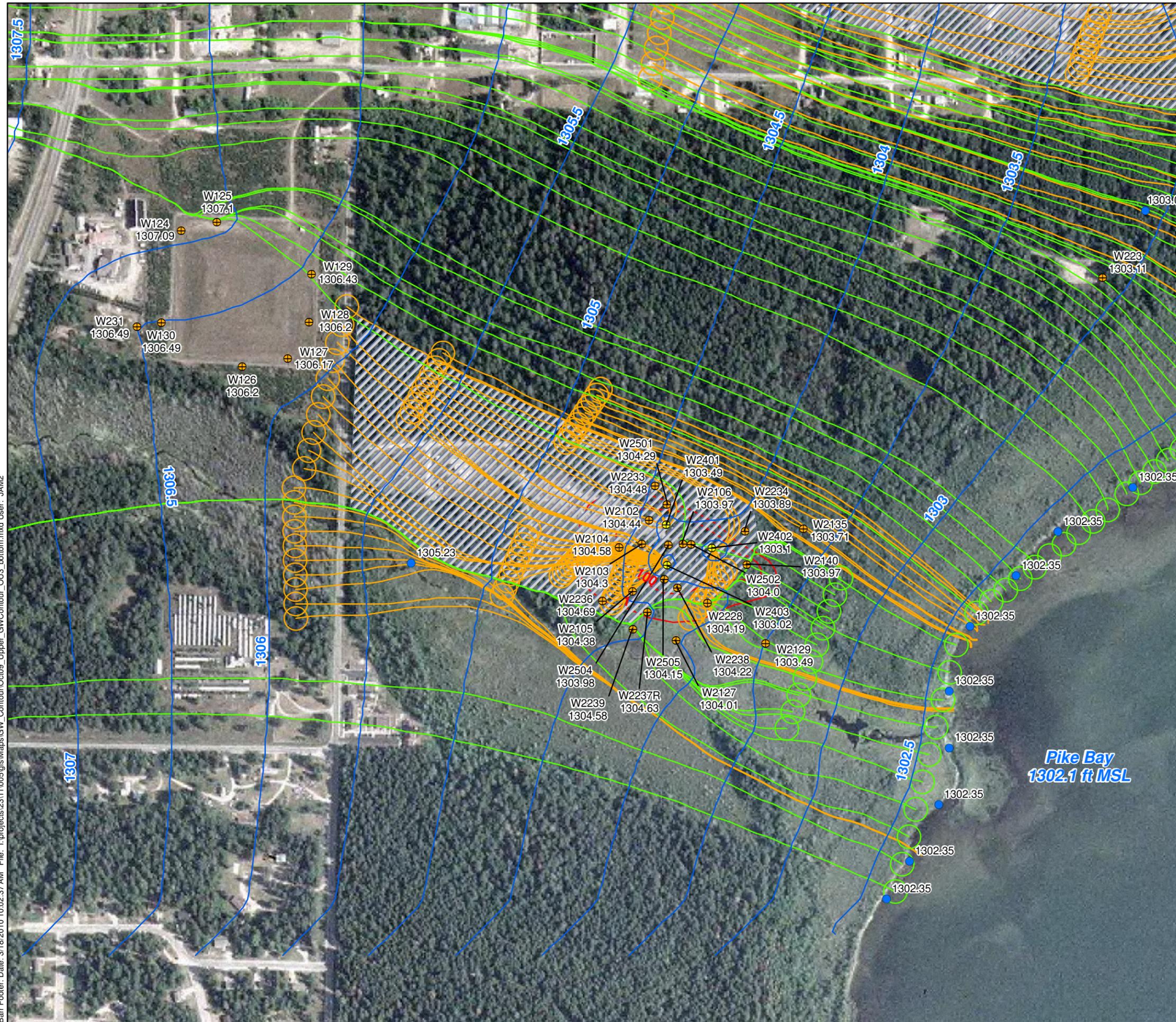


Figure 8  
GROUNDWATER ELEVATIONS  
TOP OF SURFICIAL AQUIFER - OU3  
OCTOBER 2, 2009  
St. Regis Paper Company Site  
Cass Lake, Minnesota



- Extraction well (Control point based on measured elevation and extraction rate)
- Staff gauge
- Monitoring well/piezometer
- Control point
- Groundwater elevation contour (Contour interval = 0.5 ft)
- PCP concentration contour (ug/L) - May 2009 (Dashed where inferred)
- Groundwater flow path (reverse particle trace)
- Groundwater flow path (forward particle trace)
- Approximate hydraulic capture zone

Note: Only points used to generate contours shown on map

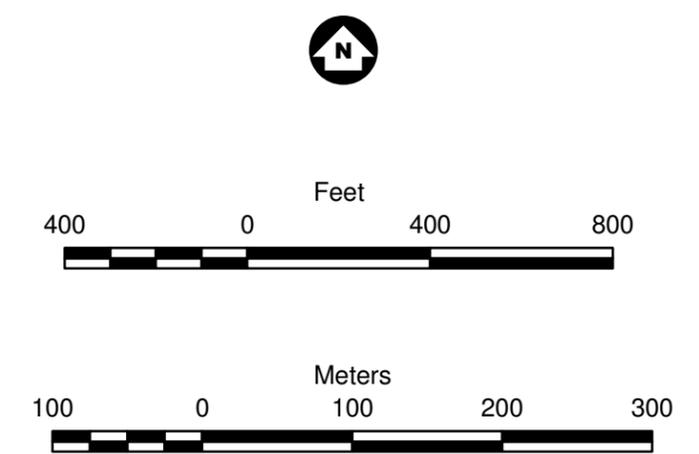
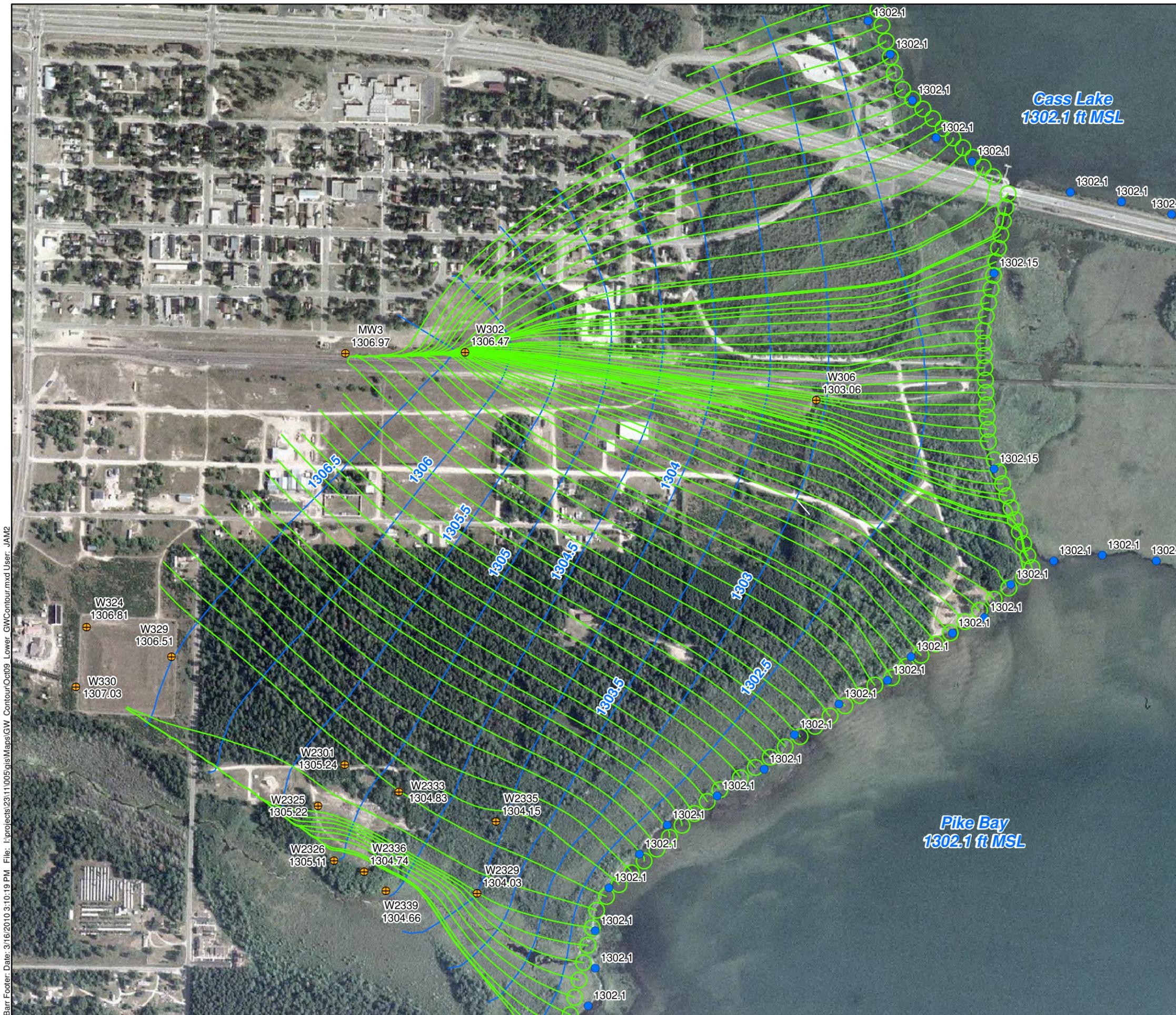


Figure 9  
GROUNDWATER ELEVATIONS  
BOTTOM OF SURFICIAL AQUIFER - OU3  
OCTOBER 2, 2009  
St. Regis Paper Company Site  
Cass Lake, Minnesota



- ⊕ Monitoring well/piezometer
- Control point
- Groundwater elevation contour (Contour interval = 0.5 ft)
- Groundwater flow path (reverse particle trace)

Note: Only points used to generate contours shown on map

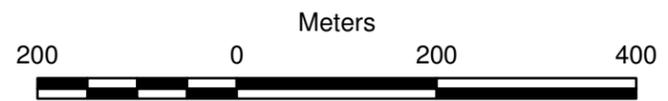


Figure 10

GROUNDWATER ELEVATIONS  
 LOWER AQUIFER  
 OCTOBER 2, 2009  
 St. Regis Paper Company Site  
 Cass Lake, Minnesota



- 7.1 PCP in ug/L
- PCP Contour (1 ug/L)
- Groundwater Monitoring Stations
- Surface Water Monitoring Stations
- St. Regis Paper Co Site
- City Dump Area

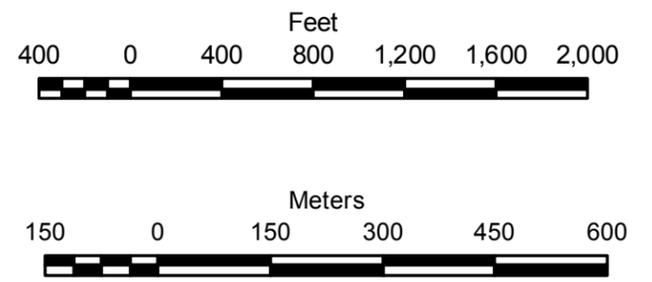
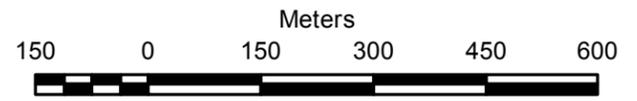
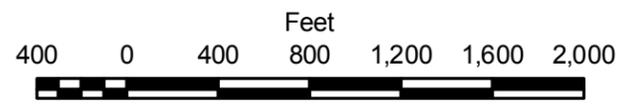


Figure 11  
 PENTACHLOROPHENOL DISTRIBUTION  
 SURFICIAL AQUIFER - May 2009  
 St. Regis Paper Company Site  
 Cass Lake, MN

Barr Footer: Date: 2/24/2010 1:56:07 PM File: I:\Projects\2311005\Maps\2009 Annual Report\Figures\Fig11\_PCP\_Distribution\_Surficial\_Aquifer\_May\_2009.mxd User: bal  
 Aerial Photography: 2008 USDA-FSA.

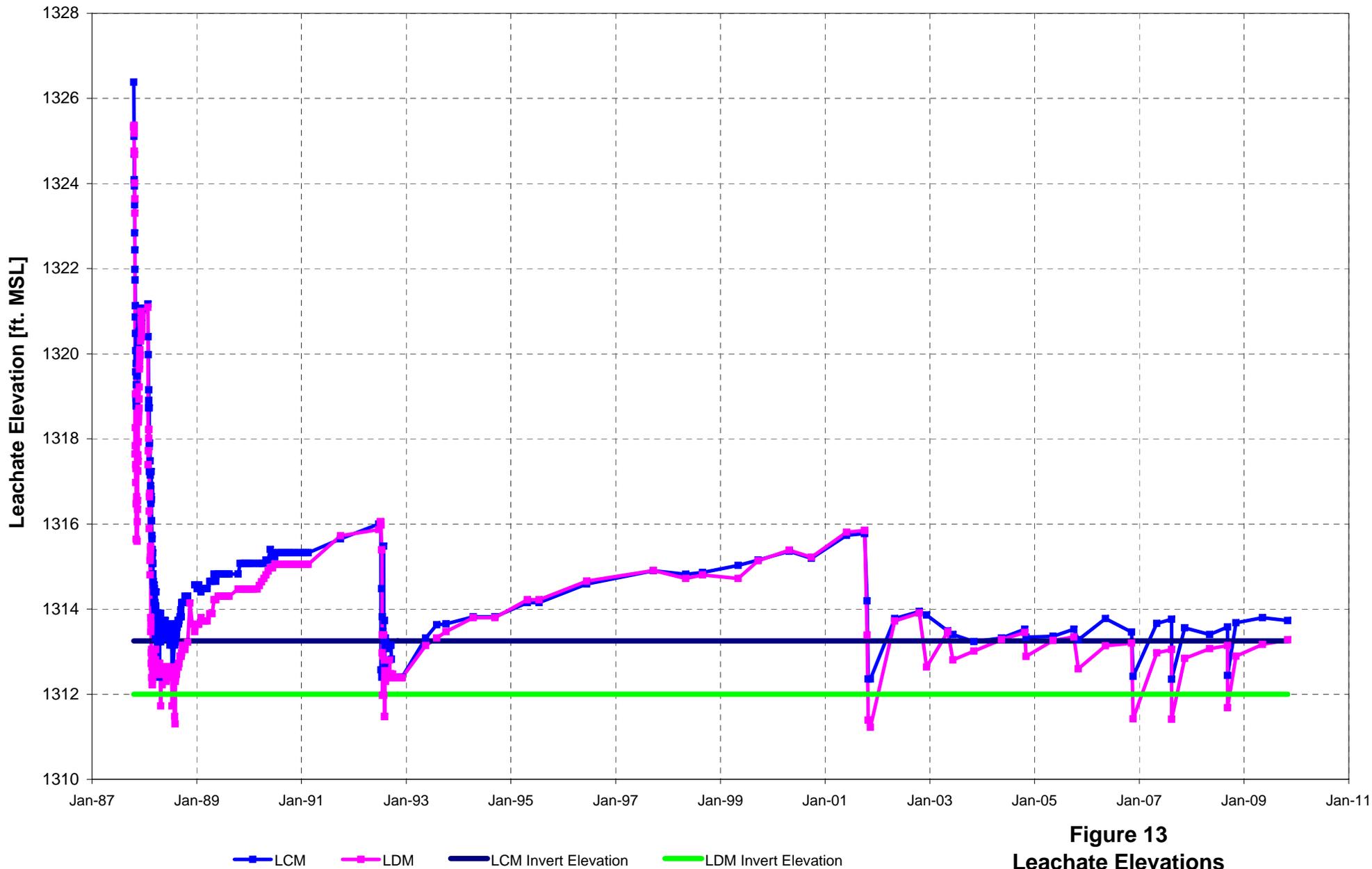


- 2,600 Naphthalene in ug/L
- 100-- Naphthalene Contour (100 ug/L)
- Groundwater Monitoring Stations
- Surface Water Monitoring Stations
- St. Regis Paper Co Site
- City Dump Area



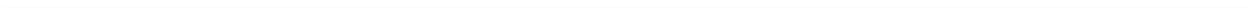
Barr Footer: Date: 2/24/2010 2:27:47 PM File: I:\Projects\2311005\Maps\2009 Annual Report\Figures\Fig12\_NAPTH\_Distribution\_Surface\_Aquifer-May\_2009.mxd User: bal  
 Aerial Photography: 2008 USDA-FSA

Figure 12  
 NAPHTHALENE DISTRIBUTION  
 SURFICIAL AQUIFER - May 2009  
 St. Regis Paper Company Site  
 Cass Lake, MN



**Figure 13**  
**Leachate Elevations**  
**OU2 - Containment Vault**  
**St. Regis Paper Company Site**

## Appendices



**Appendix A**  
**Quality Control Review**

---

**Appendix A**  
**Quality Control Review**  
**2009 Annual Report**  
**St. Regis Paper Company Site**

**Table of Contents**

Introduction.....	1
Data Validation .....	1
Field Quality Control .....	2
Laboratory Quality Control.....	3
Conclusions.....	5

**List of Tables**

Table A-1	Field (and Trip) Blank Sample Results
Table A-2	Field Duplicate Sample Results
Table A-3	Laboratory Blank Sample Results

## Introduction

A review of the quality assurance/quality control data was conducted to assess the integrity of the sampling procedures and the validity of the analytical results for monitoring of the St. Regis Paper Company Site in 2009. The quality control practices and procedures followed during the sampling and analysis of samples are detailed in the Quality Assurance Project Plan (QAPP) for *Monitoring Activities Required by the U.S. EPA Unilateral Administrative Order January 1995, St. Regis Paper Company Superfund Site, Cass Lake, Minnesota (August 2006)*, prepared by Barr Engineering Company.

Samples collected at the site were analyzed using the EPA approved methods as defined on Table B-8 of the QAPP. The laboratories include: Columbia Analytical Services Inc. (CAS) in Kelso, Washington and Houston, Texas (dioxin laboratory) and by Legend Technical Services, Inc. in St. Paul, Minnesota.

## Data Validation

The analytical data from the monitoring program was reviewed in conformance with the validation procedures detailed in the Quality Assurance Project Plan (QAPP) for *Monitoring Activities Required by the U.S. EPA Unilateral Administrative Order January 1995, St. Regis Paper Company Superfund Site, Cass Lake, Minnesota (August 2006)*, prepared by Barr Engineering Company.

. In general, the areas covered by the validation process are:

- EPA Recommended Holding Times
- Blank Analyses
- Spike and Duplicate Analyses
- Surrogate Recoveries
- Overall Assessment

These areas were evaluated with the criteria in the EPA data validation or specific method guidelines. Any data qualifiers are Barr defined qualifiers, not EPA defined qualifiers.

## Field Quality Control

A review of the analytical results for the field (and trip) blanks and field duplicates was conducted to assess the integrity of the sampling procedures and the analytical results for samples collected during the monitoring period.

Field blanks and trip blanks were collected and analyzed to monitor for contamination from any equipment decontamination, sample collection, transport, storage or laboratory procedures.

Field and trip blank data is summarized in Table A-1. Field blanks were submitted above the required rate of one field blank for every 20 investigation samples per the QAPP requirements. No gross systematic contamination issues were observed. However, trace concentrations of many target compounds were detected in one or more of the field blank samples. Because the laboratory is required to evaluate concentrations to the MDL, these detectable trace concentrations are not unexpected and are within the normal operating conditions in the laboratory. Associated positive sample concentrations less than 5 five times the associated blank sample concentration have been qualified using a “<” symbol at the level of detection. The U.S. EPA data validation guidelines (Guidelines) indicate that when sample concentrations are detected at or near the concentrations detected in the blank samples, the results should be presented as the CRQL/MRL, with a corresponding “<” (less than) or “U” qualifier. However, for this project, the levels of the corresponding CRQLs are far greater than the final laboratory reporting limits (MRLs and/or MDLs) presented and approved in the QAPP. Therefore, when project sample results are less than 5 times the associated blank sample concentrations, thus suspected false positives, they are shown at the concentration reported in the sample, with a “<”.

Field duplicate samples were collected and analyzed to determine the precision of the analytical data. The precision was determined by calculating the relative percent difference (RPD) for the data pairs. The RPD formula is as follows:

$$RPD = \frac{(D1 - D2)}{(D1 + D2)/2} \times 100\%$$

Where: D1 = concentration of the native sample  
D2 = concentration of the duplicate sample

In 2009, field duplicate samples were collected from wells W212, W215, W220, W2106, W2236, and W2237R, and from the groundwater treatment process effluent (ADSB and ADSC). The RPD results will be dependent on the heterogeneity of the samples. High RPDs are expected when results are at or near the reporting or method detection limits (as applicable) and do not always indicate poor precision. Very few RPD results fell outside acceptance criteria, notably, RPDs for anthracene in W212 (66%); and naphthalene (133%) and 2-methylnaphthalene (125%) in W2106 exceeded acceptance criteria. No qualification occurred since results were near the MDL, exaggerating the RPD. The remaining RPDs met acceptance criteria indicating an acceptable level of reproducibility during the sampling and analytical process. Field duplicate results are presented in Table A-2.

## **Laboratory Quality Control**

Laboratory based QC procedures were used to determine and monitor the validity of the data generated from the analytical systems used for sample analysis. Established acceptance criteria were used to measure the precision and accuracy obtained from the analytical process.

For the November 2009 monitoring event, sample W2233 was re-extracted and analyzed past hold for the PAHs analyses due to the laboratory glassware breaking during the original extraction preparation. Associated PAH data from sample W2233 were “h” qualified to note this occurrence. The remaining samples met established EPA recommended holding time requirements for extraction and analysis.

Laboratory method (or preparation) blanks were prepared and analyzed at the required frequency. Laboratory method blank results are presented in Table A-3. As previously discussed, no gross systematic contamination issues were observed. Trace detections of target compounds are expected when evaluating concentrations to the MDLs. Associated positive sample concentrations less than five times the associated laboratory, method, or field blank sample concentration have been qualified using a “<” symbol at the level of detection as previously stated.

Both field and laboratory duplicate samples were analyzed to determine the data precision as measured by the reproducibility of the field sampling, laboratory analysis, and the degree of sample homogeneity. Sample duplicates (non-spiked, for metals analyses) were performed at the required frequency and the sample duplicate results met the laboratory’s acceptance criteria.

The data accuracy was monitored by evaluating sample matrix spike (MS) and/or matrix spike duplicate (MSD) recoveries (when available), and laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) recoveries, and the surrogate spike recoveries (or labeled compound recoveries for dioxin/furans). The acceptance criteria used for the accuracy are presented in the laboratory reports and correspond with Tables B-11 and B-12 of the approved QAPP. In general, these are laboratory-based QC limits associated with the specific SW846 methodologies and are subject to change based on laboratory performance data and as routinely updated in the laboratory SOPs.

Matrix spike and matrix spike duplicate (when available) and laboratory control sample and laboratory control sample duplicate sample were reviewed to ensure the accuracy and precision of the analytical systems.

Matrix spike and matrix spike duplicates were collected and analyzed as required in the QAPP. The majority of the MS and MSD samples met laboratory established acceptance criteria; however, some variability is not unexpected and was observed. Matrix spike and matrix spike duplicate percent recoveries are not applicable when native sample concentrations are greater than 4 times the spike amounts. No significant systematic matrix interferences impacted final analytical results in 2009 and no qualification occurred on the project related samples for this project.

LCSs and LCSDs were prepared and analyzed as required. The vast majority of the LCS/LCSD percent recoveries and RPDs met acceptance criteria, indicating in-control analytical systems. On one occasion (October 2009), the LCS/LCSD percent recovery was above the acceptance limits for DRO, indicating a potential high bias, however no qualification occurred due to the sample concentration being potentially biased from the laboratory blank sample concentration. Similarly, the August 2009 monitoring event had a LCS/LCSD that displayed a higher RPD percent recovery for DRO, however no qualification occurred since this deviation was minor (<5%). No other deviations of the LCS/LCSD recoveries and associated RPDs occurred.

The surrogate standard recoveries (or labeled compound recoveries for dioxin/furans) were reviewed for the organic analyses including PAHs, PCP, BTEX, Dioxin/Furans, and DRO. Except for DRO analyses where samples required dilutions, most surrogate recoveries fell within the acceptance windows for the percent recovery. DRO surrogate recoveries were higher than laboratory criteria for the samples in the August 2009 monitoring event; however no qualifiers were applied to the DRO surrogate outliers because surrogates are not a DRO method requirement and the deviations were

relatively minor. In cases where the samples require dilution, calculation of the percent recoveries is not applicable and no further corrective action or qualification is required.

In one instance (May 2009), the PAH surrogates recoveries on the laboratory method blank was above the acceptance limit possibly presenting a potential high bias among the associated samples, however, no qualification occurred since this deviations was minor (<5%).

With one exception, the labeled compound percent recoveries for dioxins/furans met established acceptance criteria in 2009. The labeled compound recoveries fell within the laboratory acceptance limits or met criteria by extending to the acceptance criteria from the National Functional Guidelines (NFG). Samples from February 2009 showed lower percent recoveries of the labeled compounds, however, the associated samples were not qualified since all signal to noise ratios met acceptance criteria. Any deviations in ion abundance ratios for dioxins/furans have been qualified with EMPC (estimated maximum possible concentration). No other qualifiers have been assigned due to deviations in surrogate (or labeled compound) recoveries in any of the organic analyses results.

A comparison of the current sample data with historical data is completed to note any deviations in the data. Where historical data is available, the 2009 data correspond relatively well.

## **Conclusions**

The quality control aspects of the monitoring program overall at the Cass Lake site demonstrate compliance to the data quality objectives as measured by the quality control samples. All analytical data were validated and determined useable with the qualifiers applied in the summary tables.

## Tables

**Table A-1  
Field and Trip Blank Sample Results  
St. Regis Paper Company Site**

Sys Loc Code			QC	QC	QC	QC	QC	QC
Sample Date			03/03/2009	05/17/2009	05/18/2009	06/03/2009	08/26/2009	09/10/2009
Sample Type Code			Field Blank	Field Blank	Field Blank	Field Blank	Field Blank	Field Blank
Chemical Name	Total or Dissolved	Analysis Location						
Metals								
Arsenic	Total	Lab	<b>0.6 j ug/l</b>	< 0.2 ug/l	--	< 0.1 ug/l	--	--
Chromium	Total	Lab	< 0.9 ug/l	<b>0.04 j ug/l</b>	--	<b>0.09 j ug/l</b>	--	--
Copper	Total	Lab	< 0.8 ug/l	< 0.03 ug/l	--	< 0.02 ug/l	--	--
Total Petroleum Hydrocarbons								
Diesel Range Organics	NA	Lab	--	--	<b>31 j ug/l</b> <b>29 j ug/l</b>	--	--	--
Diesel Range Organics-silica gel cleanup	NA	Lab	--	--	--	--	<b>21 j ug/l</b>	< 50 ug/l

**Table A-1  
Field and Trip Blank Sample Results  
St. Regis Paper Company Site**

Sys Loc Code			QC	QC	QC	QC	QC	QC	QC	QC	QC
Sample Date			04/06/2009	05/05/2009	05/10/2009	05/18/2009	05/19/2009	08/04/2009	08/26/2009	10/05/2009	12/08/2009
Sample Type Code			Field Blank	Field Blank	Field Blank	Field Blank	Field Blank	Field Blank	Field Blank	Field Blank	Field Blank
Chemical Name	Total or Dissolved	Analysis Location									
SVOCs											
2-Methylnaphthalene	NA	Lab	--	<b>0.0034 j ug/l</b>	<b>0.0061 j ug/l</b>	<b>0.0072 j ug/l</b> <b>0.0069 j ug/l</b>	< 0.24 ug/l	--	<b>0.0067 j ug/l</b>	<b>0.0070 j ug/l</b>	--
Acenaphthene	NA	Lab	--	< 0.0044 ug/l	< 0.0044 ug/l	< 0.012 ug/l < 0.012 ug/l	< 0.29 ug/l	--	< 0.012 ug/l	< 0.0084 ug/l	--
Acenaphthylene	NA	Lab	--	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l < 0.0035 ug/l	< 0.24 ug/l	--	< 0.0034 ug/l	< 0.0034 ug/l	--
Anthracene	NA	Lab	--	< 0.0036 ug/l	< 0.0036 ug/l	< 0.0036 ug/l 0.0038 j ug/l	< 0.62 ug/l	--	< 0.0036 ug/l	< 0.0036 ug/l	--
Benzo(a)anthracene	NA	Lab	--	< 0.0026 ug/l	<b>0.0034 j ug/l</b>	< 0.0026 ug/l < 0.0027 ug/l	< 0.60 ug/l	--	< 0.0026 ug/l	< 0.0026 ug/l	--
Benzo(a)pyrene	NA	Lab	--	< 0.0043 ug/l	< 0.0043 ug/l	< 0.0043 ug/l < 0.0044 ug/l	< 0.66 ug/l	--	< 0.0043 ug/l	< 0.0043 ug/l	--
Benzo(b)fluoranthene	NA	Lab	--	< 0.0023 ug/l	< 0.0023 ug/l	< 0.0023 ug/l < 0.0024 ug/l	< 0.59 ug/l	--	< 0.0023 ug/l	< 0.0023 ug/l	--
Benzo(g,h,i)perylene	NA	Lab	--	< 0.0029 ug/l	< 0.0029 ug/l	< 0.0029 ug/l < 0.0030 ug/l	< 0.82 ug/l	--	< 0.0029 ug/l	< 0.0029 ug/l	--
Benzo(k)fluoranthene	NA	Lab	--	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l < 0.0026 ug/l	< 0.83 ug/l	--	< 0.0025 ug/l	< 0.0025 ug/l	--
Chrysene	NA	Lab	--	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l < 0.0035 ug/l	< 0.79 ug/l	--	< 0.0034 ug/l	< 0.0034 ug/l	--
Dibenz(a,h)anthracene	NA	Lab	--	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l < 0.0026 ug/l	< 0.76 ug/l	--	< 0.0025 ug/l	< 0.0025 ug/l	--
Fluoranthene	NA	Lab	--	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l < 0.0045 ug/l	< 0.66 ug/l	--	< 0.0044 ug/l	< 0.0044 ug/l	--
Fluorene	NA	Lab	--	< 0.0038 ug/l	< 0.0038 ug/l	< 0.0038 ug/l 0.0049 j ug/l	< 0.33 ug/l	--	< 0.0038 ug/l	< 0.0038 ug/l	--
Indeno(1,2,3-cd)pyrene	NA	Lab	--	< 0.0026 ug/l	< 0.0026 ug/l	< 0.0026 ug/l < 0.0027 ug/l	< 0.69 ug/l	--	< 0.0026 ug/l	< 0.0026 ug/l	--
Naphthalene	NA	Lab	--	<b>0.030 ug/l</b>	<b>0.021 ug/l</b>	<b>0.033 ug/l</b> <b>0.035 ug/l</b>	< 0.37 ug/l	--	<b>0.031 ug/l</b>	<b>0.020 j ug/l</b>	--
Pentachlorophenol	NA	Lab	< 0.16 ug/l	--	< 0.16 ug/l	< 0.16 ug/l < 0.16 ug/l	< 2.5 ug/l	< 0.16 ug/l	< 0.16 ug/l	< 0.16 ug/l	< 0.16 ug/l
Phenanthrene	NA	Lab	--	< 0.0050 ug/l	<b>0.0050 j ug/l</b>	< 0.0050 ug/l 0.0082 j ug/l	< 0.49 ug/l	--	< 0.0050 ug/l	< 0.0050 ug/l	--
Pyrene	NA	Lab	--	< 0.0035 ug/l	< 0.0035 ug/l	< 0.0035 ug/l < 0.0036 ug/l	< 0.74 ug/l	--	< 0.0035 ug/l	< 0.0035 ug/l	--

**Table A-1  
Field and Trip Blank Sample Results  
St. Regis Paper Company Site**

Sys Loc Code		QC	
Sample Date		05/18/2009	
Sample Type Code		Field Blank	
Chemical Name	Total or Dissolved	Analysis Location	
SVOCs			
1,6-Dinitropyrene	NA	Lab	< 0.0017 ug/l
1,8-Dinitropyrene	NA	Lab	< 0.0034 ug/l
1-Nitropyrene	NA	Lab	< 0.0022 ug/l
2-Nitrofluorene	NA	Lab	< 0.00092 ug/l
3-Methylcholanthrene	NA	Lab	< 0.0021 ug/l
5-Methylchrysene	NA	Lab	< 0.00062 ug/l
5-Nitroacenaphthene	NA	Lab	< 0.0011 ug/l
6-Nitrochrysene	NA	Lab	< 0.0013 ug/l
7,12-Dimethylbenz(a)anthracene	NA	Lab	< 0.0013 ug/l
7h-Dibenzo(c,g)carbazole	NA	Lab	< 0.00080 ug/l
Benzo[j]fluoranthene	NA	Lab	< 0.0027 ug/l
Dibenz(a,h)acridine	NA	Lab	< 0.00071 ug/l
Dibenz(a,j)acridine	NA	Lab	<b>0.0032 j ug/l</b>
Dibenzo(a,e)pyrene	NA	Lab	< 0.00044 ug/l
Dibenzo[a,h]pyrene	NA	Lab	< 0.00094 ug/l
Dibenzo[a,i]pyrene	NA	Lab	< 0.00073 ug/l

**Table A-1  
Field and Trip Blank Sample Results  
St. Regis Paper Company Site**

Sys Loc Code			QC	QC	QC	QC	QC	QC	QC	QC	QC	QC
Sample Date			02/04/2009	02/17/2009	03/03/2009	03/03/2009	03/04/2009	04/06/2009	05/05/2009	05/16/2009	05/17/2009	05/18/2009
Sample Type Code			Trip Blank	Trip Blank	Field Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Field Blank
Chemical Name	Total or Dissolved	Analysis Location										
VOCs												
Benzene	NA	Lab	< 0.045 ug/l	< 0.045 ug/l	<b>0.070 j ug/l</b>	< 0.045 ug/l	< 0.045 ug/l	< 0.045 ug/l	< 0.045 ug/l	< 0.045 ug/l	< 0.045 ug/l	< 0.045 ug/l
Ethyl benzene	NA	Lab	< 0.042 ug/l	< 0.042 ug/l	< 0.042 ug/l	< 0.042 ug/l	< 0.042 ug/l	< 0.042 ug/l	< 0.042 ug/l	< 0.042 ug/l	< 0.042 ug/l	< 0.042 ug/l
Toluene	NA	Lab	< 0.048 ug/l	<b>0.32 j ug/l</b>	<b>0.53 ug/l</b>	< 0.048 ug/l	<b>0.15 j ug/l</b>	<b>0.41 j ug/l</b>	<b>0.37 j ug/l</b>	<b>0.06 j ug/l</b> <b>0.46 j ug/l</b>	< 0.048 ug/l	<b>1.1 ug/l</b> <b>1.1 ug/l</b>
Xylene m & p	NA	Lab	< 0.078 ug/l	< 0.078 ug/l	<b>0.10 j ug/l</b>	< 0.078 ug/l	< 0.078 ug/l	< 0.078 ug/l	< 0.078 ug/l	< 0.078 ug/l	< 0.078 ug/l	<b>0.08 j ug/l</b> < 0.078 ug/l
Xylene, o-	NA	Lab	<b>0.050 j ug/l</b>	< 0.037 ug/l	<b>0.050 j ug/l</b>	< 0.037 ug/l	< 0.037 ug/l	< 0.037 ug/l	< 0.037 ug/l	< 0.037 ug/l	< 0.037 ug/l	< 0.037 ug/l

**Table A-1  
Field and Trip Blank Sample Results  
St. Regis Paper Company Site**

Sys Loc Code			QC	QC	QC	QC	QC	QC	QC	QC	QC	QC	
Sample Date			05/18/2009	05/19/2009	05/19/2009	06/03/2009	07/06/2009	07/06/2009	08/26/2009	08/26/2009	09/10/2009	10/05/2009	
Sample Type Code			Trip Blank	Field Blank	Trip Blank	Trip Blank	Field Blank	Trip Blank	Trip Blank	Field Blank	Trip Blank	Trip Blank	
Chemical Name	Total or Dissolved	Analysis Location											
VOCs													
Benzene	NA	Lab	< 0.045 ug/l	< 0.038 ug/l	< 0.038 ug/l	< 0.038 ug/l	<b>0.060 j ug/l</b>	< 0.038 ug/l	<b>0.040 j ug/l</b>	<b>0.050 j ug/l</b>	< 0.50 ug/l	< 0.50 ug/l	
Ethyl benzene	NA	Lab	< 0.042 ug/l	< 0.050 ug/l	< 0.050 ug/l	< 0.050 ug/l	<b>0.060 j ug/l</b>	< 0.050 ug/l	< 0.050 ug/l	<b>0.14 j ug/l</b>	< 0.50 ug/l	< 0.50 ug/l	
Toluene	NA	Lab	< 0.048 ug/l	<b>1.5 ug/l</b>	<b>0.31 j ug/l</b>	< 0.052 ug/l	<b>0.070 j ug/l</b>	<b>0.30 j ug/l</b>	<b>0.070 j ug/l</b>	< 0.052 ug/l	<b>22 ug/l</b>	<b>0.14 j ug/l</b>	< 0.50 ug/l
Xylene m & p	NA	Lab	< 0.078 ug/l	< 0.091 ug/l	< 0.091 ug/l	< 0.091 ug/l	<b>0.18 j ug/l</b>	< 0.091 ug/l	< 0.091 ug/l	<b>0.45 j ug/l</b>	< 0.50 ug/l	< 0.50 ug/l	
Xylene, o-	NA	Lab	< 0.037 ug/l	<b>0.080 j ug/l</b>	< 0.074 ug/l	< 0.074 ug/l	< 0.074 ug/l	< 0.074 ug/l	< 0.074 ug/l	<b>0.25 j ug/l</b>	< 0.50 ug/l	< 0.50 ug/l	

**Table A-1  
Field and Trip Blank Sample Results  
St. Regis Paper Company Site**

Sys Loc Code			QC	QC	QC
Sample Date			11/03/2009	11/10/2009	12/08/2009
Sample Type Code			Trip Blank	Trip Blank	Trip Blank
Chemical Name	Total or Dissolved	Analysis Location			
VOCs					
Benzene	NA	Lab	< 0.038 ug/l	< 0.038 ug/l	< 0.038 ug/l
Ethyl benzene	NA	Lab	< 0.050 ug/l	< 0.050 ug/l	< 0.050 ug/l
Toluene	NA	Lab	< 0.052 ug/l	< 0.052 ug/l	<b>0.080 j ug/l</b>
Xylene m & p	NA	Lab	< 0.091 ug/l	< 0.091 ug/l	< 0.091 ug/l
Xylene, o-	NA	Lab	< 0.074 ug/l	< 0.074 ug/l	< 0.074 ug/l

**Table A-1  
Field and Trip Blank Sample Results  
St. Regis Paper Company Site**

**DRAFT**

Sys Loc Code		QC	QC	QC
Sample Date		05/18/2009	08/26/2009	11/03/2009
Sample Type Code		Field Blank	Field Blank	Field Blank
Chemical Name	Total or Dissolved	Analysis Location		
Chlorinated Dioxins / Furans				
2,3,7,8-Dioxin, tetra	NA	Lab	< 1.95 pg/l < 1.63 pg/l	< 0.667 pg/l < 0.955 pg/l
1,2,3,7,8-Dioxin penta	NA	Lab	< 1.57 pg/l < 1.87 pg/l	< 0.826 pg/l < 1.31 pg/l
1,2,3,4,7,8-Dioxin, hexa	NA	Lab	< 0.885 pg/l < 1.28 pg/l	< 1.18 pg/l < 1.05 pg/l
1,2,3,6,7,8-Dioxin, hexa	NA	Lab	< 0.761 pg/l < 1.10 pg/l	< 1.13 pg/l < 0.953 pg/l
1,2,3,7,8,9-Dioxin, hexa	NA	Lab	< 0.852 pg/l < 1.23 pg/l	< 1.21 pg/l < 1.01 pg/l
1,2,3,4,6,7,8-Dioxin, hepta	NA	Lab	< 1.56 pg/l < 1.05 pg/l	< 1.37 pg/l < 2.07 pg/l
Dioxin octa	NA	Lab	< 4.38 pg/l < 4.73 pg/l	< 2.59 pg/l < 3.26 pg/l
2,3,7,8-Dibenzofuran, tetra	NA	Lab	< 1.84 pg/l < 2.27 pg/l	< 0.753 pg/l < 1.03 pg/l
1,2,3,7,8-Dibenzofuran, penta	NA	Lab	< 0.884 pg/l < 0.950 pg/l	< 0.774 pg/l < 0.939 pg/l
2,3,4,7,8-Dibenzofuran, penta	NA	Lab	< 0.900 pg/l < 0.968 pg/l	< 0.760 pg/l < 0.929 pg/l
1,2,3,4,7,8-Dibenzofuran, hexa	NA	Lab	< 0.479 pg/l < 0.784 pg/l	< 0.750 pg/l < 0.610 pg/l
1,2,3,6,7,8-Dibenzofuran, hexa	NA	Lab	< 0.463 pg/l < 0.757 pg/l	< 0.744 pg/l < 0.583 pg/l
1,2,3,7,8,9-Dibenzofuran, hexa	NA	Lab	< 0.667 pg/l < 1.10 pg/l	< 1.01 pg/l < 0.781 pg/l
2,3,4,6,7,8-Dibenzofuran, hexa	NA	Lab	< 0.528 pg/l < 0.865 pg/l	< 0.825 pg/l < 0.666 pg/l
1,2,3,4,6,7,8-Dibenzofuran, hepta	NA	Lab	< 0.742 pg/l < 0.637 pg/l	< 1.55 pg/l < 1.19 pg/l
1,2,3,4,7,8,9-Dibenzofuran, hepta	NA	Lab	< 1.08 pg/l < 0.925 pg/l	< 2.20 pg/l < 1.66 pg/l

**Table A-2  
Field Duplicate Sample Results  
St. Regis Paper Company Site**

Sys Loc Code			ADSC		RPD	ADSC		RPD	W212		RPD
Sample Date			06/03/2009			09/10/2009			05/18/2009		
Sample Type Code			N	FD	Percent %	N	FD	Percent %	N	FD	Percent %
Chemical Name	Total or Dissolved	Analysis Location									
Metals											
Arsenic	Total	Lab	<b>0.5 j ug/l</b>	<b>0.5 j ug/l</b>	<b>0.00</b>	<b>0.65 ug/l</b>	--		--	--	
Chromium	Total	Lab	< 0.08 ug/l	< 0.12 ug/l		<b>0.06 j ug/l</b>	--		--	--	
Copper	Total	Lab	<b>0.27 ug/l</b>	<b>0.25 ug/l</b>	<b>7.69</b>	<b>0.66 ug/l</b>	--		--	--	
Total Petroleum Hydrocarbons											
Diesel Range Organics	NA	Lab	--	--		--	--		< 63 ug/l	< 85 ug/l	
Diesel Range Organics-silica gel cleanup	NA	Lab	< 15 ug/l	--		< 50 ug/l	< 50 ug/l		--	--	

Sys Loc Code			W220		RPD	W2236		RPD	W2237R		RPD
Sample Date			05/18/2009			08/26/2009			05/17/2009		
Sample Type Code			N	FD	Percent %	N	FD	Percent %	N	FD	Percent %
Chemical Name	Total or Dissolved	Analysis Location									
Metals											
Arsenic	Total	Lab	--	--		--	--		<b>1.1 ug/l</b>	<b>1.1 ug/l</b>	<b>0.00</b>
Chromium	Total	Lab	--	--		--	--		< 0.19 ug/l	< 0.16 ug/l	
Copper	Total	Lab	--	--		--	--		<b>0.52 ug/l</b>	<b>0.57 ug/l</b>	<b>9.17</b>
Total Petroleum Hydrocarbons											
Diesel Range Organics	NA	Lab	< 110 ug/l	< 120 ug/l		--	--		<b>110 ug/l</b>	--	
Diesel Range Organics-silica gel cleanup	NA	Lab	--	--		< 20 ug/l	< 18 ug/l		--	--	

**Table A-2  
Field Duplicate Sample Results  
St. Regis Paper Company Site**

Sys Loc Code			ADSC		RPD	Fish4-2		RPD	W2106		RPD
Sample Date			05/05/2009			10/05/2009			05/19/2009		
Sample Type Code			N	FD	Percent %	N	FD	Percent %	N	FD	Percent %
Chemical Name	Total or Dissolved	Analysis Location									
SVOCs											
2-Methylnaphthalene	NA	Lab	< 0.0023 ug/l	< 0.0023 ug/l		< 0.0023 ug/l	< 0.0023 ug/l		<b>10 j ug/l</b>	<b>2.3 j ug/l</b>	<b>125.20</b>
Acenaphthene	NA	Lab	<b>0.0055 j ug/l</b>	<b>0.0048 j ug/l</b>	<b>13.59</b>	< 0.0044 ug/l	< 0.0044 ug/l		<b>82 ug/l</b>	<b>80 ug/l</b>	<b>2.47</b>
Acenaphthylene	NA	Lab	< 0.0034 ug/l	< 0.0034 ug/l		< 0.0034 ug/l	< 0.0034 ug/l		<b>4.2 j ug/l</b>	<b>3.5 j ug/l</b>	<b>18.18</b>
Anthracene	NA	Lab	< 0.0036 ug/l	< 0.0036 ug/l		< 0.0036 ug/l	< 0.0036 ug/l		<b>5.0 j ug/l</b>	<b>4.7 j ug/l</b>	<b>6.19</b>
Benzo(a)anthracene	NA	Lab	<b>0.0036 j ug/l</b>	<b>0.0037 j ug/l</b>	<b>2.74</b>	<b>0.0030 j ug/l</b>	< 0.0026 ug/l		< 0.60 ug/l	< 0.60 ug/l	
Benzo(a)pyrene	NA	Lab	< 0.0043 ug/l	< 0.0043 ug/l		< 0.0043 ug/l	< 0.0043 ug/l		< 0.66 ug/l	< 0.66 ug/l	
Benzo(b)fluoranthene	NA	Lab	< 0.0023 ug/l	< 0.0023 ug/l		<b>0.0025 j ug/l</b>	< 0.0023 ug/l		< 0.59 ug/l	< 0.59 ug/l	
Benzo(g,h,i)perylene	NA	Lab	< 0.0029 ug/l	< 0.0029 ug/l		< 0.0058 ug/l	< 0.0029 ug/l		< 0.82 ug/l	< 0.82 ug/l	
Benzo(k)fluoranthene	NA	Lab	< 0.0025 ug/l	< 0.0025 ug/l		< 0.0025 ug/l	< 0.0025 ug/l		< 0.83 ug/l	< 0.83 ug/l	
Chrysene	NA	Lab	< 0.0034 ug/l	< 0.0034 ug/l		< 0.0034 ug/l	< 0.0034 ug/l		< 0.79 ug/l	< 0.79 ug/l	
Dibenz(a,h)anthracene	NA	Lab	< 0.0025 ug/l	< 0.0025 ug/l		<b>0.0040 j ug/l</b>	< 0.0025 ug/l		< 0.76 ug/l	< 0.76 ug/l	
Dibenzofuran	NA	Lab	--	--		< 0.0046 ug/l	< 0.0046 ug/l		--	--	
Fluoranthene	NA	Lab	<b>0.0079 j ug/l</b>	<b>0.0078 j ug/l</b>	<b>1.27</b>	< 0.0044 ug/l	< 0.0044 ug/l		< 0.66 ug/l	< 0.66 ug/l	
Fluorene	NA	Lab	<b>0.0056 j ug/l</b>	<b>0.0046 j ug/l</b>	<b>19.61</b>	< 0.0038 ug/l	< 0.0038 ug/l		<b>44 ug/l</b>	<b>39 ug/l</b>	<b>12.05</b>
Indeno(1,2,3-cd)pyrene	NA	Lab	< 0.0026 ug/l	< 0.0026 ug/l		<b>0.0036 j ug/l</b>	< 0.0026 ug/l		< 0.69 ug/l	< 0.69 ug/l	
Naphthalene	NA	Lab	<b>0.0075 j ug/l</b>	<b>0.0064 j ug/l</b>	<b>15.83</b>	< 0.012 ug/l	< 0.0030 ug/l		<b>11 ug/l</b>	<b>2.2 j ug/l</b>	<b>133.33</b>
Phenanthrene	NA	Lab	<b>0.0089 j ug/l</b>	<b>0.0084 j ug/l</b>	<b>5.78</b>	< 0.0050 ug/l	< 0.0050 ug/l		<b>16 ug/l</b>	<b>14 ug/l</b>	<b>13.33</b>
Pyrene	NA	Lab	<b>0.0063 j ug/l</b>	<b>0.0053 j ug/l</b>	<b>17.24</b>	< 0.0035 ug/l	< 0.0035 ug/l		< 0.74 ug/l	< 0.74 ug/l	

**Table A-2  
Field Duplicate Sample Results  
St. Regis Paper Company Site**

Sys Loc Code			W212		RPD	W220		RPD	W2236		RPD
Sample Date			05/18/2009			05/18/2009			08/26/2009		
Sample Type Code			N	FD	Percent %	N	FD	Percent %	N	FD	Percent %
Chemical Name	Total or Dissolved	Analysis Location									
SVOCs											
2-Methylnaphthalene	NA	Lab	<b>0.049 ug/l</b>	<b>0.054 ug/l</b>	<b>9.71</b>	< 0.0047 ug/l	< 0.0051 ug/l		< 0.0023 ug/l	< 0.0023 ug/l	
Acenaphthene	NA	Lab	<b>0.018 j ug/l</b>	<b>0.023 ug/l</b>	<b>24.39</b>	<b>0.028 ug/l</b>	<b>0.029 ug/l</b>	<b>3.51</b>	< 0.0044 ug/l	< 0.0044 ug/l	
Acenaphthylene	NA	Lab	< 0.0034 ug/l	< 0.0034 ug/l		< 0.013 ug/l	< 0.0099 ug/l		< 0.0034 ug/l	< 0.0034 ug/l	
Anthracene	NA	Lab	<b>0.014 j ug/l</b>	<b>0.028 ug/l</b>	<b>66.67</b>	<b>0.1 ug/l</b>	<b>0.096 ug/l</b>	<b>4.08</b>	< 0.0036 ug/l	< 0.0036 ug/l	
Benzo(a)anthracene	NA	Lab	< 0.0032 ug/l	< 0.0026 ug/l		< 0.0042 ug/l	< 0.0027 ug/l		< 0.0026 ug/l	< 0.0026 ug/l	
Benzo(a)pyrene	NA	Lab	< 0.0043 ug/l	< 0.0043 ug/l		< 0.0044 ug/l	< 0.0045 ug/l		< 0.0043 ug/l	< 0.0043 ug/l	
Benzo(b)fluoranthene	NA	Lab	< 0.0023 ug/l	< 0.0023 ug/l		<b>0.0028 j ug/l</b>	< 0.0024 ug/l		< 0.0023 ug/l	< 0.0023 ug/l	
Benzo(g,h,i)perylene	NA	Lab	< 0.0029 ug/l	< 0.0029 ug/l		<b>0.0057 j ug/l</b>	< 0.0030 ug/l		< 0.0029 ug/l	< 0.0029 ug/l	
Benzo(k)fluoranthene	NA	Lab	< 0.0025 ug/l	< 0.0025 ug/l		< 0.0026 ug/l	< 0.0026 ug/l		< 0.0025 ug/l	< 0.0025 ug/l	
Chrysene	NA	Lab	< 0.0034 ug/l	< 0.0034 ug/l		< 0.0035 ug/l	< 0.0035 ug/l		< 0.0034 ug/l	< 0.0034 ug/l	
Dibenz(a,h)anthracene	NA	Lab	< 0.0025 ug/l	< 0.0025 ug/l		<b>0.0037 j ug/l</b>	< 0.0026 ug/l		< 0.0025 ug/l	< 0.0025 ug/l	
Dibenzofuran	NA	Lab	--	--		--	--		--	--	
Fluoranthene	NA	Lab	< 0.0044 ug/l	< 0.0044 ug/l		< 0.0045 ug/l	< 0.0046 ug/l		< 0.0044 ug/l	< 0.0044 ug/l	
Fluorene	NA	Lab	< 0.0038 ug/l	< 0.0038 ug/l		<b>0.33 ug/l</b>	<b>0.31 ug/l</b>	<b>6.25</b>	< 0.0038 ug/l	< 0.0038 ug/l	
Indeno(1,2,3-cd)pyrene	NA	Lab	< 0.0026 ug/l	< 0.0026 ug/l		<b>0.0036 j ug/l</b>	< 0.0027 ug/l		< 0.0026 ug/l	< 0.0026 ug/l	
Naphthalene	NA	Lab	<b>0.89 ug/l</b>	<b>1.2 ug/l</b>	<b>29.67</b>	<b>2 ug/l</b>	<b>2.4 ug/l</b>	<b>18.18</b>	< 0.0059 ug/l	< 0.0064 ug/l	
Phenanthrene	NA	Lab	< 0.0050 ug/l	<b>0.0094 j ug/l</b>		<b>0.012 j ug/l</b>	<b>0.013 j ug/l</b>	<b>8.00</b>	< 0.0050 ug/l	< 0.0050 ug/l	
Pyrene	NA	Lab	< 0.0035 ug/l	< 0.0035 ug/l		<b>0.0049 j ug/l</b>	< 0.0036 ug/l		< 0.0035 ug/l	< 0.0035 ug/l	

**Table A-2  
Field Duplicate Sample Results  
St. Regis Paper Company Site**

Sys Loc Code			W215		RPD Percent %
Sample Date			05/18/2009		
Sample Type Code			N	FD	
Chemical Name	Total or Dissolved	Analysis Location			
SVOCs					
1,6-Dinitropyrene	NA	Lab	< 0.0018 ug/l	< 0.0018 ug/l	
1,8-Dinitropyrene	NA	Lab	< 0.0036 ug/l	< 0.0036 ug/l	
1-Nitropyrene	NA	Lab	< 0.0023 ug/l	< 0.0023 ug/l	
2-Nitrofluorene	NA	Lab	< 0.00098 ug/l	< 0.00098 ug/l	
3-Methylcholanthrene	NA	Lab	< 0.0022 ug/l	< 0.0022 ug/l	
5-Methylchrysene	NA	Lab	< 0.00066 ug/l	< 0.00066 ug/l	
5-Nitroacenaphthene	NA	Lab	< 0.0012 ug/l	< 0.0012 ug/l	
6-Nitrochrysene	NA	Lab	< 0.0014 ug/l	< 0.0014 ug/l	
7,12-Dimethylbenz(a)anthracene	NA	Lab	< 0.0014 ug/l	< 0.0014 ug/l	
7h-Dibenzo(c,g)carbazole	NA	Lab	< 0.00085 ug/l	<b>0.01 j ug/l</b>	
Benzo[j]fluoranthene	NA	Lab	< 0.0029 ug/l	< 0.0029 ug/l	
Dibenz(a,h)acridine	NA	Lab	< 0.00075 ug/l	< 0.00075 ug/l	
Dibenz(a,j)acridine	NA	Lab	< 0.0013 ug/l	< 0.0013 ug/l	
Dibenzo(a,e)pyrene	NA	Lab	< 0.00047 ug/l	< 0.00047 ug/l	
Dibenzo(a,l)pyrene	NA	Lab	< 0.00099 ug/l	< 0.00099 ug/l	
Dibenzo[a,h]pyrene	NA	Lab	< 0.0010 ug/l	< 0.0010 ug/l	
Dibenzo[a,i]pyrene	NA	Lab	< 0.00077 ug/l	< 0.00077 ug/l	

**Table A-2  
Field Duplicate Sample Results  
St. Regis Paper Company Site**

Sys Loc Code			ADSB			RPD	ADSC			RPD	
Sample Date			12/08/2009				04/06/2009				
Sample Type Code			N	FD	Percent %	N	FD	Percent %	N	FD	Percent %
Chemical Name	Total or Dissolved	Analysis Location									
Pentachlorophenol	NA	Lab	< 0.16 ug/l	< 0.16 ug/l		< 0.16 ug/l	< 0.16 ug/l		< 0.16 ug/l	< 0.16 ug/l	

Sys Loc Code			Fish4-2			RPD	W2106			RPD	W212		
Sample Date			10/05/2009				05/19/2009				05/18/2009		
Sample Type Code			N	FD	Percent %	N	FD	Percent %	N	FD	Percent %		
Chemical Name	Total or Dissolved	Analysis Location											
Pentachlorophenol	NA	Lab	< 0.16 ug/l	< 0.16 ug/l		11000 ug/l	9900 ug/l	10.53	12 ug/l	13 ug/l	8.00		

Sys Loc Code			W220			RPD	W2236		
Sample Date			05/18/2009				08/26/2009		
Sample Type Code			N	FD	Percent %	N	FD	Percent %	
Chemical Name	Total or Dissolved	Analysis Location							
Pentachlorophenol	NA	Lab	5.5 ug/l	5.6 ug/l	1.80	< 0.16 ug/l	< 0.16 ug/l		

**Table A-2  
Field Duplicate Sample Results  
St. Regis Paper Company Site**

Sys Loc Code			ADSC		RPD	W212		RPD
Sample Date			07/06/2009			05/18/2009		
Sample Type Code			N	FD	Percent %	N	FD	Percent %
Chemical Name	Total or Dissolved	Analysis Location						
VOCs								
Benzene	NA	Lab	< 0.038 ug/l	< 0.038 ug/l		< 0.045 ug/l	< 0.045 ug/l	
Ethyl benzene	NA	Lab	< 0.050 ug/l	< 0.050 ug/l		< 0.042 ug/l	< 0.042 ug/l	
Toluene	NA	Lab	< 0.18 ug/l	< 0.20 ug/l		< 0.51 ug/l	< 0.54 ug/l	
Xylene m & p	NA	Lab	< 0.091 ug/l	< 0.091 ug/l		< 0.078 ug/l	< 0.078 ug/l	
Xylene, o-	NA	Lab	< 0.074 ug/l	< 0.074 ug/l		< 0.037 ug/l	< 0.037 ug/l	

Sys Loc Code			W220		RPD	W2236		RPD
Sample Date			05/18/2009			08/26/2009		
Sample Type Code			N	FD	Percent %	N	FD	Percent %
Chemical Name	Total or Dissolved	Analysis Location						
VOCs								
Benzene	NA	Lab	<b>0.05 j ug/l</b>	<b>0.05 j ug/l</b>	<b>0.00</b>	< 0.040 ug/l	< 0.040 ug/l	
Ethyl benzene	NA	Lab	<b>0.14 j ug/l</b>	<b>0.15 j ug/l</b>	<b>6.90</b>	< 0.050 ug/l	< 0.050 ug/l	
Toluene	NA	Lab	< 0.7 ug/l	< 0.59 ug/l		< 0.060 ug/l	< 0.052 ug/l	
Xylene m & p	NA	Lab	< 0.08 ug/l	< 0.09 ug/l		< 0.091 ug/l	< 0.091 ug/l	
Xylene, o-	NA	Lab	<b>0.06 j ug/l</b>	<b>0.07 j ug/l</b>	<b>15.38</b>	< 0.074 ug/l	< 0.074 ug/l	

**Table A-2  
Field Duplicate Sample Results  
St. Regis Paper Company Site**

Sys Loc Code			ADSB		RPD	W212		RPD
Sample Date			11/03/2009			05/18/2009		
Sample Type Code			N	FD	Percent %	N	FD	Percent %
Chemical Name	Total or Dissolved	Analysis Location						
Chlorinated Dioxins / Furans								
2,3,7,8-Dioxin, tetra	NA	Lab	< 0.955 pg/l	< 1.44 pg/l		< 0.121 pg/l	< 1.15 pg/l	
1,2,3,7,8-Dioxin penta	NA	Lab	< 1.30 pg/l	< 1.35 pg/l		< 0.209 pg/l	< 1.40 pg/l	
1,2,3,4,7,8-Dioxin, hexa	NA	Lab	< 1.06 pg/l	< 0.883 pg/l		< 0.217 pg/l	< 0.826 pg/l	
1,2,3,6,7,8-Dioxin, hexa	NA	Lab	< 0.958 pg/l	< 0.801 pg/l		< 0.192 pg/l	< 0.710 pg/l	
1,2,3,7,8,9-Dioxin, hexa	NA	Lab	< 1.02 pg/l	< 0.848 pg/l		< 0.210 pg/l	< 0.795 pg/l	
1,2,3,4,6,7,8-Dioxin, hepta	NA	Lab	< 1.43 pg/l	< 3.35 pg/l		<b>3.55 EMPC pg/l</b>	<b>2.66 j pg/l</b>	<b>28.66</b>
Dioxin octa	NA	Lab	< 19.7 pg/l	< 28.3 pg/l		< 40.5 pg/l	< 12.7 pg/l	
2,3,7,8-Dibenzofuran, tetra	NA	Lab	< 1.06 pg/l	< 1.32 pg/l		< 0.296 pg/l	< 1.36 pg/l	
1,2,3,7,8-Dibenzofuran, penta	NA	Lab	< 0.895 pg/l	< 0.997 pg/l		< 0.119 pg/l	< 0.799 pg/l	
2,3,4,7,8-Dibenzofuran, penta	NA	Lab	< 0.886 pg/l	< 0.986 pg/l		< 0.117 pg/l	< 0.813 pg/l	
1,2,3,4,7,8-Dibenzofuran, hexa	NA	Lab	< 0.752 pg/l	< 0.715 pg/l		< 0.226 pg/l	< 0.673 pg/l	
1,2,3,6,7,8-Dibenzofuran, hexa	NA	Lab	< 0.719 pg/l	< 0.684 pg/l		< 0.218 pg/l	< 0.651 pg/l	
1,2,3,7,8,9-Dibenzofuran, hexa	NA	Lab	< 0.963 pg/l	< 0.917 pg/l		< 0.284 pg/l	< 0.937 pg/l	
2,3,4,6,7,8-Dibenzofuran, hexa	NA	Lab	< 0.822 pg/l	< 0.782 pg/l		< 0.243 pg/l	< 0.743 pg/l	
1,2,3,4,6,7,8-Dibenzofuran, hepta	NA	Lab	< 0.874 pg/l	< 0.781 pg/l		<b>0.608 j pg/l</b>	< 0.508 pg/l	
1,2,3,4,7,8,9-Dibenzofuran, hepta	NA	Lab	< 1.22 pg/l	< 1.09 pg/l		< 0.257 pg/l	< 0.737 pg/l	
Dibenzofuran octa	NA	Lab	< 2.26 pg/l	< 2.22 pg/l		<b>2.62 EMPC pg/l</b>	< 1.03 pg/l	

**Table A-2  
Field Duplicate Sample Results  
St. Regis Paper Company Site**

Sys Loc Code			W220		RPD	W2236		RPD
Sample Date			05/18/2009			08/26/2009		
Sample Type Code			N	FD	Percent %	N	FD	Percent %
Chemical Name	Total or Dissolved	Analysis Location						
Chlorinated Dioxins / Furans								
2,3,7,8-Dioxin, tetra	NA	Lab	< 0.370 pg/l	< 0.140 pg/l		< 0.725 pg/l	< 0.616 pg/l	
1,2,3,7,8-Dioxin penta	NA	Lab	< 0.267 pg/l	< 0.258 pg/l		< 0.951 pg/l	< 0.669 pg/l	
1,2,3,4,7,8-Dioxin, hexa	NA	Lab	< 0.300 pg/l	< 0.137 pg/l		< 1.33 pg/l	< 1.07 pg/l	
1,2,3,6,7,8-Dioxin, hexa	NA	Lab	< 0.266 pg/l	< 0.122 pg/l		< 1.27 pg/l	< 1.03 pg/l	
1,2,3,7,8,9-Dioxin, hexa	NA	Lab	< 0.290 pg/l	< 0.132 pg/l		< 1.37 pg/l	< 1.10 pg/l	
1,2,3,4,6,7,8-Dioxin, hepta	NA	Lab	<b>0.967 EMPC pg/l</b>	<b>1.15 j pg/l</b>	<b>17.29</b>	< 1.55 pg/l	< 1.12 pg/l	
Dioxin octa	NA	Lab	< 6.58 pg/l	< 8.30 pg/l		< 3.74 pg/l	< 2.48 pg/l	
2,3,7,8-Dibenzofuran, tetra	NA	Lab	< 0.180 pg/l	< 0.227 pg/l		< 0.760 pg/l	< 0.815 pg/l	
1,2,3,7,8-Dibenzofuran, penta	NA	Lab	< 0.257 pg/l	< 0.225 pg/l		< 0.652 pg/l	< 0.633 pg/l	
2,3,4,7,8-Dibenzofuran, penta	NA	Lab	< 0.255 pg/l	< 0.223 pg/l		< 0.641 pg/l	< 0.621 pg/l	
1,2,3,4,7,8-Dibenzofuran, hexa	NA	Lab	< 0.330 pg/l	< 0.157 pg/l		< 1.04 pg/l	< 0.676 pg/l	
1,2,3,6,7,8-Dibenzofuran, hexa	NA	Lab	< 0.316 pg/l	< 0.151 pg/l		< 1.03 pg/l	< 0.670 pg/l	
1,2,3,7,8,9-Dibenzofuran, hexa	NA	Lab	< 0.413 pg/l	< 0.197 pg/l		< 1.39 pg/l	< 0.903 pg/l	
2,3,4,6,7,8-Dibenzofuran, hexa	NA	Lab	< 0.353 pg/l	< 0.169 pg/l		< 1.14 pg/l	< 0.743 pg/l	
1,2,3,4,6,7,8-Dibenzofuran, hepta	NA	Lab	< 0.289 pg/l	< 0.195 pg/l		< 2.26 pg/l	< 1.72 pg/l	
1,2,3,4,7,8,9-Dibenzofuran, hepta	NA	Lab	< 0.393 pg/l	< 0.266 pg/l		< 3.20 pg/l	< 2.44 pg/l	
Dibenzofuran octa	NA	Lab	< 0.297 pg/l	< 0.255 pg/l		< 2.44 pg/l	< 2.90 pg/l	

Data Qualifiers/Footnotes	
Qualifier	Definition
--	Not analyzed/not available.
a	Estimated value, calculated using some or all values that are estimates.
b	Potential false positive value based on blank data validation procedures.
c	Coeluting compound.
e	Estimated value, exceeded the instrument calibration range.
h	EPA recommended sample preservation, extraction or analysis holding time was exceeded.
l	Indeterminate value based on failure of blind duplicate data to meet quality assurance criteria.
j	Reported value is less than the stated laboratory quantitation limit and is considered an estimated value.
p	Relative percent difference is >40% (25% CLP pesticides) between primary and confirmation GC columns.
pp	Small peak in chromatogram below method detection limit.
r	The presence of the compound is suspect based on the ID criteria of the retention time and relative retention time obtained from the examination of the chromatograms.
s	Potential false positive value based on statistical analysis of blank sample data.
*	Estimated value, QA/QC criteria not met.
**	Unusable value, QA/QC criteria not met.
N	Sample Type: Normal
FD	Sample Type: Field Duplicate
AT	Sample chromatogram is noted to be atypical of a petroleum product.
DLND	Not detected, detection limit not determined.
DNF	Did not flash
EMPC	Estimated maximum possible concentration.
NA – (Not applicable)	NA indicates that a fractional portion of the sample is not part of the analytical testing or field collection procedures.
ND	Not detected.
TIC	Tentatively identified compound
BQA	Barr-applied project specific qualifier: extraction and/or analyses conducted using an alternative method and/or procedure.
BQC	Barr-applied project specific qualifier: plant shut down.
BQD	Barr-applied project specific qualifier: equipment malfunction.
BQE	Barr-applied project specific qualifier: equipment adjustment.
BQM	Barr-applied project specific qualifier: manual measurement.
BQN	Barr-applied project specific qualifier: unable to be sampled or measured due to various reasons.
BQP	Barr-applied project specific qualifier: atypical chromatographic pattern.
BQQ	Barr-applied project specific qualifier: some aspect of QA/QC was not met.
BQR	Barr-applied project specific qualifier: location was re-sampled.
BQS	Barr-applied project specific qualifier: data is considered suspect.

<b>Data Qualifiers/Footnotes</b>	
<b>Qualifier</b>	<b>Definition</b>
BQT	Barr-applied project specific qualifier: summed value not displayed due to insufficient field length.
BQU	Barr-applied project specific qualifier: historical qualifier - definition unknown.
BQV	Barr-applied project specific qualifier: estimated value.
BQX	Barr-applied project specific qualifier: see notes for qualifier definition.
BQZ	Barr-applied project specific qualifier: data is considered unusable.

**Table A-3  
Laboratory Blank Sample Results  
St. Regis Paper Company Site**

Sys Loc Code			QC	QC	QC	QC	QC	QC	QC	QC	QC	QC	
Sample Date			01/05/2009	02/04/2009	02/17/2009	03/03/2009	03/04/2009	04/06/2009	05/05/2009	05/16/2009	05/19/2009	06/03/2009	07/06/2009
Sample Type Code			Lab Blank	Lab Blank	Lab Blank	Lab Blank	Lab Blank	Lab Blank	Lab Blank	Lab Blank	Lab Blank	Lab Blank	Lab Blank
Chemical Name	Total or Dissolved	Analysis Location											
Metals													
Arsenic	Total	Lab	< 0.2 ug/l	< 0.2 ug/l	--	< 0.6 ug/l	< 0.2 ug/l	< 0.2 ug/l	< 0.2 ug/l	< 0.2 ug/l	< 0.2 ug/l	< 0.1 ug/l	< 0.1 ug/l
Chromium	Total	Lab	<b>0.14 j ug/l</b>	< 0.05 ug/l	--	< 0.9 ug/l	<b>0.04 j ug/l</b>	<b>0.27 j ug/l</b>	<b>0.07 j ug/l</b>	< 0.03 ug/l	<b>0.09 j ug/l</b>	< 0.04 ug/l	<b>0.03 j ug/l</b>
Copper	Total	Lab	< 0.02 ug/l	< 0.02 ug/l	--	<b>1.1 j ug/l</b>	< 0.03 ug/l	< 0.02 ug/l	< 0.02 ug/l	< 0.03 ug/l	< 0.02 ug/l	< 0.02 ug/l	< 0.02 ug/l
Total Petroleum Hydrocarbons													
Diesel Range Organics	NA	Lab	--	--	--	--	< 15 ug/l	--	--	< 15 ug/l	< 15 ug/l	--	--
Diesel Range Organics-silica gel cleanup	NA	Lab	<b>17 j ug/l</b>	< 15 ug/l	< 15 ug/l	--	--	< 15 ug/l	< 15 ug/l	--	--	< 15 ug/l	< 15 ug/l

Sys Loc Code			QC	QC	QC	QC	QC	QC	QC	QC
Sample Date			08/04/2009	08/31/2009	09/17/2009	10/12/2009	10/27/2009	11/10/2009	11/18/2009	12/16/2009
Sample Type Code			Lab Blank	Lab Blank	Lab Blank	Lab Blank	Lab Blank	Lab Blank	Lab Blank	Lab Blank
Chemical Name	Total or Dissolved	Analysis Location								
Metals										
Arsenic	Total	Lab	< 0.07 ug/l	--	< 0.07 ug/l	--	< 0.07 ug/l	--	< 0.07 ug/l	< 0.07 ug/l
Chromium	Total	Lab	< 0.04 ug/l	--	< 0.04 ug/l	--	<b>0.06 j ug/l</b>	--	< 0.04 ug/l	< 0.04 ug/l
Copper	Total	Lab	< 0.02 ug/l	--	< 0.02 ug/l	--	< 0.02 ug/l	--	< 0.02 ug/l	<b>0.07 j ug/l</b>
Total Petroleum Hydrocarbons										
Diesel Range Organics	NA	Lab	--	--	--	--	--	--	--	--
Diesel Range Organics-silica gel cleanup	NA	Lab	<b>36 j ug/l</b>	<b>25 j ug/l</b>	< 50 ug/l	<b>23 j ug/l</b>	--	<b>22 j ug/l</b>	<b>34 j ug/l</b>	<b>18 j ug/l</b>

**Table A-3  
Laboratory Blank Sample Results  
St. Regis Paper Company Site**

Sys Loc Code			QC	QC	QC	QC	QC	QC	QC	QC
Sample Date			01/05/2009	02/04/2009	02/17/2009	03/04/2009	04/06/2009	05/05/2009	05/10/2009	05/13/2009
Sample Type Code			Lab Blank	Lab Blank	Lab Blank	Lab Blank	Lab Blank	Lab Blank	Lab Blank	Lab Blank
Chemical Name	Total or Dissolved	Analysis Location								
SVOCs										
2-Methylnaphthalene	NA	Lab	< 0.0023 ug/l	< 0.0023 ug/l	< 0.0023 ug/l	< 0.0023 ug/l	< 0.0023 ug/l	< 0.0023 ug/l	< 0.0023 ug/l	< 0.0023 ug/l
Acenaphthene	NA	Lab	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l
Acenaphthylene	NA	Lab	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l
Anthracene	NA	Lab	< 0.0036 ug/l	< 0.0036 ug/l	< 0.0036 ug/l	< 0.0036 ug/l	< 0.0036 ug/l	< 0.0036 ug/l	< 0.0036 ug/l	< 0.0036 ug/l
Benzo(a)anthracene	NA	Lab	< 0.0026 ug/l	< 0.0026 ug/l	< 0.0026 ug/l	< 0.0026 ug/l	<b>0.0033 j ug/l</b>	< 0.0026 ug/l	< 0.0026 ug/l	<b>0.0028 j ug/l</b>
Benzo(a)pyrene	NA	Lab	< 0.0043 ug/l	< 0.0043 ug/l	< 0.0043 ug/l	< 0.0043 ug/l	< 0.0043 ug/l	< 0.0043 ug/l	< 0.0043 ug/l	< 0.0043 ug/l
Benzo(b)fluoranthene	NA	Lab	<b>0.0025 j ug/l</b>	< 0.0023 ug/l	< 0.0023 ug/l	< 0.0023 ug/l	< 0.0023 ug/l	< 0.0023 ug/l	< 0.0023 ug/l	< 0.0023 ug/l
Benzo(g,h,i)perylene	NA	Lab	<b>0.013 j ug/l</b>	<b>0.0034 j ug/l</b>	< 0.0029 ug/l	< 0.0029 ug/l	< 0.0029 ug/l	< 0.0029 ug/l	< 0.0029 ug/l	<b>0.0045 j ug/l</b>
Benzo(k)fluoranthene	NA	Lab	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l
Chrysene	NA	Lab	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l
Dibenz(a,h)anthracene	NA	Lab	<b>0.0039 j ug/l</b>	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l
Dibenzofuran	NA	Lab	--	--	--	--	--	--	< 0.0046 ug/l	< 0.0046 ug/l
Fluoranthene	NA	Lab	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l
Fluorene	NA	Lab	< 0.0038 ug/l	< 0.0038 ug/l	< 0.0038 ug/l	< 0.0038 ug/l	< 0.0038 ug/l	< 0.0038 ug/l	< 0.0038 ug/l	< 0.0038 ug/l
Indeno(1,2,3-cd)pyrene	NA	Lab	<b>0.0069 j ug/l</b>	<b>0.0039 j ug/l</b>	< 0.0026 ug/l	< 0.0026 ug/l	< 0.0026 ug/l	< 0.0026 ug/l	< 0.0026 ug/l	<b>0.0029 j ug/l</b>
Naphthalene	NA	Lab	< 0.0030 ug/l	< 0.0030 ug/l	< 0.0030 ug/l	< 0.0030 ug/l	< 0.0030 ug/l	< 0.0030 ug/l	<b>0.0067 j ug/l</b>	<b>0.0058 j ug/l</b>
Pentachlorophenol	NA	Lab	< 0.080 ug/l	< 0.16 ug/l	< 0.16 ug/l	< 0.16 ug/l	< 0.16 ug/l	< 0.16 ug/l	< 0.16 ug/l	< 0.16 ug/l
Phenanthrene	NA	Lab	< 0.0050 ug/l	< 0.0050 ug/l	< 0.0050 ug/l	< 0.0050 ug/l	< 0.0050 ug/l	< 0.0050 ug/l	< 0.0050 ug/l	< 0.0050 ug/l
Pyrene	NA	Lab	<b>0.0038 j ug/l</b>	< 0.0035 ug/l	< 0.0035 ug/l	< 0.0035 ug/l	< 0.0035 ug/l	< 0.0035 ug/l	< 0.0035 ug/l	< 0.0035 ug/l

**Table A-3**  
**Laboratory Blank Sample Results**  
**St. Regis Paper Company Site**

Sys Loc Code			QC	QC	QC	QC	QC	QC	QC	QC
Sample Date			05/16/2009	05/19/2009	06/03/2009	07/06/2009	08/04/2009	08/28/2009	09/15/2009	10/07/2009
Sample Type Code			Lab Blank	Lab Blank	Lab Blank	Lab Blank	Lab Blank	Lab Blank	Lab Blank	Lab Blank
Chemical Name	Total or Dissolved	Analysis Location								
SVOCs										
2-Methylnaphthalene	NA	Lab	< 0.0023 ug/l	< 0.24 ug/l < 0.0023 ug/l	<b>0.0027 j ug/l</b>	< 0.0023 ug/l	<b>0.0023 j ug/l</b>	< 0.0023 ug/l	< 0.020 ug/l	< 0.019 ug/l
Acenaphthene	NA	Lab	< 0.0044 ug/l	< 0.29 ug/l < 0.0044 ug/l	<b>0.0050 j ug/l</b>	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.020 ug/l	< 0.019 ug/l
Acenaphthylene	NA	Lab	< 0.0034 ug/l	< 0.24 ug/l < 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.020 ug/l	< 0.019 ug/l
Anthracene	NA	Lab	< 0.0036 ug/l	< 0.62 ug/l < 0.0036 ug/l	<b>0.0095 j ug/l</b>	< 0.0036 ug/l	< 0.0036 ug/l	< 0.0036 ug/l	< 0.020 ug/l	< 0.019 ug/l
Benzo(a)anthracene	NA	Lab	<b>0.0029 j ug/l</b>	< 0.60 ug/l 0.0029 j ug/l	<b>0.0049 j ug/l</b>	<b>0.0027 j ug/l</b>	<b>0.0035 j ug/l</b>	<b>0.0037 j ug/l</b>	<b>0.0065 j ug/l</b>	< 0.019 ug/l
Benzo(a)pyrene	NA	Lab	< 0.0043 ug/l	< 0.66 ug/l < 0.0043 ug/l	< 0.0043 ug/l	< 0.0043 ug/l	< 0.0043 ug/l	< 0.0043 ug/l	< 0.020 ug/l	< 0.019 ug/l
Benzo(b)fluoranthene	NA	Lab	< 0.0023 ug/l	< 0.59 ug/l < 0.0023 ug/l	<b>0.0041 j ug/l</b>	< 0.0023 ug/l	<b>0.0025 j ug/l</b>	<b>0.0030 j ug/l</b>	< 0.020 ug/l	< 0.019 ug/l
Benzo(g,h,i)perylene	NA	Lab	< 0.0029 ug/l	< 0.82 ug/l < 0.0029 ug/l	<b>0.0038 j ug/l</b>	< 0.0029 ug/l	<b>0.0070 j ug/l</b>	<b>0.0048 j ug/l</b>	<b>0.0040 j ug/l</b>	<b>0.013 j ug/l</b>
Benzo(k)fluoranthene	NA	Lab	< 0.0025 ug/l	< 0.83 ug/l < 0.0025 ug/l	<b>0.0033 j ug/l</b>	< 0.0025 ug/l	< 0.0025 ug/l	<b>0.0028 j ug/l</b>	< 0.020 ug/l	< 0.019 ug/l
Chrysene	NA	Lab	< 0.0034 ug/l	< 0.79 ug/l < 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.020 ug/l	< 0.019 ug/l
Dibenz(a,h)anthracene	NA	Lab	< 0.0025 ug/l	< 0.76 ug/l < 0.0025 ug/l	<b>0.0033 j ug/l</b>	< 0.0025 ug/l	<b>0.0029 j ug/l</b>	< 0.0025 ug/l	< 0.020 ug/l	<b>0.0036 j ug/l</b>
Dibenzofuran	NA	Lab	--	--	--	--	--	--	--	--
Fluoranthene	NA	Lab	< 0.0044 ug/l	< 0.66 ug/l < 0.0044 ug/l	<b>0.0087 j ug/l</b>	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.020 ug/l	< 0.019 ug/l
Fluorene	NA	Lab	< 0.0038 ug/l	< 0.33 ug/l < 0.0038 ug/l	<b>0.0068 j ug/l</b>	< 0.0038 ug/l	< 0.0038 ug/l	< 0.0038 ug/l	< 0.020 ug/l	< 0.019 ug/l
Indeno(1,2,3-cd)pyrene	NA	Lab	< 0.0026 ug/l	< 0.69 ug/l < 0.0026 ug/l	<b>0.0038 j ug/l</b>	< 0.0026 ug/l	<b>0.0052 j ug/l</b>	<b>0.0030 j ug/l</b>	< 0.020 ug/l	<b>0.0054 j ug/l</b>
Naphthalene	NA	Lab	<b>0.0091 j ug/l</b>	< 0.37 ug/l 0.0091 j ug/l	<b>0.0085 j ug/l</b>	<b>0.0033 j ug/l</b>	<b>0.0040 j ug/l</b>	<b>0.0062 j ug/l</b>	<b>0.0046 j ug/l</b>	< 0.019 ug/l
Pentachlorophenol	NA	Lab	< 0.16 ug/l	< 0.16 ug/l < 2.5 ug/l	< 0.16 ug/l	< 0.16 ug/l	< 0.16 ug/l	< 0.16 ug/l	< 0.50 ug/l	< 0.16 ug/l
Phenanthrene	NA	Lab	< 0.0050 ug/l	< 0.49 ug/l < 0.0050 ug/l	<b>0.037 ug/l</b>	< 0.0050 ug/l	<b>0.0052 j ug/l</b>	<b>0.0071 j ug/l</b>	<b>0.0054 j ug/l</b>	< 0.019 ug/l
Pyrene	NA	Lab	< 0.0035 ug/l	< 0.74 ug/l < 0.0035 ug/l	<b>0.010 j ug/l</b>	< 0.0035 ug/l	< 0.0035 ug/l	< 0.0035 ug/l	< 0.020 ug/l	< 0.019 ug/l

**Table A-3  
Laboratory Blank Sample Results  
St. Regis Paper Company Site**

Sys Loc Code			QC	QC	QC	QC	QC
Sample Date			10/09/2009	11/05/2009	11/17/2009	11/18/2009	12/10/2009
Sample Type Code			Lab Blank	Lab Blank	Lab Blank	Lab Blank	Lab Blank
Chemical Name	Total or Dissolved	Analysis Location					
SVOCs							
2-Methylnaphthalene	NA	Lab	< 0.0023 ug/l	< 0.0023 ug/l	< 0.0023 ug/l	< 0.0023 ug/l	< 0.0023 ug/l
Acenaphthene	NA	Lab	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l
Acenaphthylene	NA	Lab	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l
Anthracene	NA	Lab	< 0.0036 ug/l	< 0.0036 ug/l	< 0.0036 ug/l	< 0.0036 ug/l	< 0.0036 ug/l
Benzo(a)anthracene	NA	Lab	< 0.0026 ug/l	< 0.0026 ug/l	< 0.0026 ug/l	< 0.0026 ug/l	< 0.0026 ug/l
Benzo(a)pyrene	NA	Lab	< 0.0043 ug/l	< 0.0043 ug/l	< 0.0043 ug/l	< 0.0043 ug/l	< 0.0043 ug/l
Benzo(b)fluoranthene	NA	Lab	< 0.0023 ug/l	< 0.0023 ug/l	< 0.0023 ug/l	< 0.0023 ug/l	<b>0.0025 j ug/l</b>
Benzo(g,h,i)perylene	NA	Lab	<b>0.0064 j ug/l</b>	< 0.0029 ug/l	< 0.0029 ug/l	< 0.0029 ug/l	<b>0.0053 j ug/l</b>
Benzo(k)fluoranthene	NA	Lab	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l
Chrysene	NA	Lab	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l	< 0.0034 ug/l
Dibenz(a,h)anthracene	NA	Lab	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l	< 0.0025 ug/l	<b>0.0039 j ug/l</b>
Dibenzofuran	NA	Lab	< 0.0046 ug/l	--	--	--	--
Fluoranthene	NA	Lab	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l	< 0.0044 ug/l
Fluorene	NA	Lab	< 0.0038 ug/l	< 0.0038 ug/l	< 0.0038 ug/l	< 0.0038 ug/l	< 0.0038 ug/l
Indeno(1,2,3-cd)pyrene	NA	Lab	< 0.0026 ug/l	< 0.0026 ug/l	< 0.0026 ug/l	< 0.0026 ug/l	<b>0.0038 j ug/l</b>
Naphthalene	NA	Lab	< 0.0030 ug/l	< 0.0030 ug/l	< 0.0030 ug/l	< 0.0030 ug/l	< 0.0030 ug/l
Pentachlorophenol	NA	Lab	< 0.50 ug/l	< 0.16 ug/l	< 0.16 ug/l	--	< 0.16 ug/l
Phenanthrene	NA	Lab	< 0.0050 ug/l	< 0.0050 ug/l	< 0.0050 ug/l	< 0.0050 ug/l	< 0.0050 ug/l
Pyrene	NA	Lab	< 0.0035 ug/l	< 0.0035 ug/l	< 0.0035 ug/l	< 0.0035 ug/l	< 0.0035 ug/l

**Table A-3  
Laboratory Blank Sample Results  
St. Regis Paper Company Site**

Sys Loc Code			QC
Sample Date			05/18/2009
Sample Type Code			Lab Blank
Chemical Name	Total or Dissolved	Analysis Location	
SVOCs			
1,6-Dinitropyrene	NA	Lab	< 0.0018 ug/l
1,8-Dinitropyrene	NA	Lab	< 0.0036 ug/l
1-Nitropyrene	NA	Lab	< 0.0023 ug/l
2-Nitrofluorene	NA	Lab	< 0.00098 ug/l
3-Methylcholanthrene	NA	Lab	< 0.0022 ug/l
5-Methylchrysene	NA	Lab	< 0.00066 ug/l
5-Nitroacenaphthene	NA	Lab	< 0.0012 ug/l
6-Nitrochrysene	NA	Lab	< 0.0014 ug/l
7,12-Dimethylbenz(a)anthracene	NA	Lab	< 0.0014 ug/l
7h-Dibenzo(c,g)carbazole	NA	Lab	< 0.00085 ug/l
Benzo[j]fluoranthene	NA	Lab	< 0.0029 ug/l
Dibenz(a,h)acridine	NA	Lab	< 0.00075 ug/l
Dibenz(a,j)acridine	NA	Lab	< 0.0013 ug/l
Dibenzo(a,e)pyrene	NA	Lab	< 0.00047 ug/l
Dibenzo(a,l)pyrene	NA	Lab	< 0.00099 ug/l
Dibenzo[a,h]pyrene	NA	Lab	< 0.0010 ug/l
Dibenzo[a,i]pyrene	NA	Lab	< 0.00077 ug/l

**Table A-3  
Laboratory Blank Sample Results  
St. Regis Paper Company Site**

Sys Loc Code			QC	QC	QC	QC	QC	QC	QC	QC	QC	
Sample Date			01/05/2009	02/04/2009	02/17/2009	03/03/2009	03/04/2009	04/06/2009	05/05/2009	05/16/2009	05/19/2009	06/03/2009
Sample Type Code			Lab Blank	Lab Blank	Lab Blank	Lab Blank	Lab Blank	Lab Blank	Lab Blank	Lab Blank	Lab Blank	Lab Blank
Chemical Name	Total or Dissolved	Analysis Location										
VOCs												
Benzene	NA	Lab	< 0.045 ug/l	< 0.045 ug/l < 0.045 ug/l	< 0.045 ug/l	< 0.045 ug/l	< 0.045 ug/l	< 0.045 ug/l	< 0.045 ug/l < 0.045 ug/l	< 0.045 ug/l < 0.045 ug/l	< 0.038 ug/l < 0.038 ug/l	< 0.038 ug/l
Ethyl benzene	NA	Lab	< 0.042 ug/l	< 0.042 ug/l < 0.042 ug/l	< 0.042 ug/l	< 0.042 ug/l	< 0.042 ug/l	<b>0.050 j ug/l</b>	<b>0.050 j ug/l</b> < 0.042 ug/l	< 0.042 ug/l < 0.042 ug/l	< 0.050 ug/l < 0.050 ug/l	< 0.050 ug/l
Toluene	NA	Lab	< 0.048 ug/l	< 0.048 ug/l < 0.048 ug/l	< 0.048 ug/l	< 0.048 ug/l	< 0.048 ug/l	<b>0.050 j ug/l</b>	< 0.048 ug/l < 0.048 ug/l	< 0.048 ug/l < 0.048 ug/l	< 0.052 ug/l < 0.052 ug/l	< 0.052 ug/l
Xylene m & p	NA	Lab	< 0.078 ug/l	< 0.078 ug/l < 0.078 ug/l	< 0.078 ug/l	< 0.078 ug/l	< 0.078 ug/l	<b>0.11 j ug/l</b>	<b>0.080 j ug/l</b> <b>0.10 j ug/l</b>	< 0.078 ug/l < 0.078 ug/l	< 0.091 ug/l < 0.091 ug/l	< 0.091 ug/l
Xylene, o-	NA	Lab	< 0.037 ug/l	<b>0.050 j ug/l</b> <b>0.040 j ug/l</b>	< 0.037 ug/l	< 0.037 ug/l	< 0.037 ug/l	<b>0.050 j ug/l</b>	< 0.037 ug/l 0.050 j ug/l	< 0.037 ug/l < 0.037 ug/l	< 0.074 ug/l < 0.074 ug/l	< 0.074 ug/l

Sys Loc Code			QC	QC	QC	QC	QC	QC	QC	QC	QC
Sample Date			07/06/2009	08/04/2009	09/03/2009	09/18/2009	10/15/2009	11/16/2009	11/19/2009	11/20/2009	12/17/2009
Sample Type Code			Lab Blank	Lab Blank	Lab Blank	Lab Blank	Lab Blank	Lab Blank	Lab Blank	Lab Blank	Lab Blank
Chemical Name	Total or Dissolved	Analysis Location									
VOCs											
Benzene	NA	Lab	< 0.038 ug/l	<b>0.050 j ug/l</b>	< 0.038 ug/l	< 0.50 ug/l	< 0.50 ug/l	<b>0.050 j ug/l</b>	< 0.038 ug/l	< 0.038 ug/l	< 0.038 ug/l
Ethyl benzene	NA	Lab	< 0.050 ug/l	< 0.050 ug/l	< 0.050 ug/l	< 0.50 ug/l	< 0.50 ug/l	< 0.050 ug/l	< 0.050 ug/l	< 0.050 ug/l	< 0.050 ug/l
Toluene	NA	Lab	< 0.052 ug/l	< 0.052 ug/l	< 0.052 ug/l	< 0.50 ug/l	< 0.50 ug/l	< 0.052 ug/l	< 0.052 ug/l	< 0.052 ug/l	< 0.052 ug/l
Xylene m & p	NA	Lab	< 0.091 ug/l	< 0.091 ug/l	< 0.091 ug/l	< 0.50 ug/l	< 0.50 ug/l	< 0.091 ug/l	< 0.091 ug/l	< 0.091 ug/l	< 0.091 ug/l
Xylene, o-	NA	Lab	< 0.074 ug/l	< 0.074 ug/l	< 0.074 ug/l	< 0.50 ug/l	< 0.50 ug/l	< 0.074 ug/l	< 0.074 ug/l	< 0.074 ug/l	< 0.074 ug/l

**Table A-3  
Laboratory Blank Sample Results  
St. Regis Paper Company Site**

Sys Loc Code			QC	QC	QC	QC	QC	QC	QC	QC	QC
Sample Date			02/04/2009	02/17/2009	03/03/2009	05/05/2009	05/16/2009	05/18/2009	08/04/2009	09/03/2009	11/06/2009
Sample Type Code			Lab Blank	Lab Blank	Lab Blank	Lab Blank	Lab Blank	Lab Blank	Lab Blank	Lab Blank	Lab Blank
Chemical Name	Total or Dissolved	Analysis Location									
Chlorinated Dioxins / Furans											
2,3,7,8-Dioxin, tetra	NA	Lab	< 0.504 pg/l	< 0.996 pg/l	< 0.527 pg/l	< 0.964 pg/l	< 5.75 pg/l	< 5.75 pg/l	< 0.769 pg/l	< 0.0850 pg/l	< 0.402 pg/l
1,2,3,7,8-Dioxin penta	NA	Lab	< 0.489 pg/l	< 0.413 pg/l	< 0.498 pg/l	< 0.915 pg/l	< 3.33 pg/l	< 3.33 pg/l	< 0.933 pg/l	< 0.289 pg/l	< 0.648 pg/l
1,2,3,4,7,8-Dioxin, hexa	NA	Lab	< 0.605 pg/l	< 0.305 pg/l	< 0.679 pg/l	< 0.907 pg/l	< 2.17 pg/l	< 2.17 pg/l	< 1.32 pg/l	< 0.204 pg/l	< 0.806 pg/l
1,2,3,6,7,8-Dioxin, hexa	NA	Lab	< 0.535 pg/l	< 0.269 pg/l	< 0.555 pg/l	< 0.741 pg/l	< 1.78 pg/l	< 1.78 pg/l	< 1.24 pg/l	< 0.180 pg/l	< 0.731 pg/l
1,2,3,7,8,9-Dioxin, hexa	NA	Lab	< 0.582 pg/l	< 0.293 pg/l	< 0.607 pg/l	< 0.810 pg/l	< 1.94 pg/l	< 1.94 pg/l	< 1.31 pg/l	< 0.196 pg/l	< 0.774 pg/l
1,2,3,4,6,7,8-Dioxin, hepta	NA	Lab	<b>5.49 j pg/l</b>	<b>2.94 j pg/l</b>	<b>1.27 EMPC pg/l</b>	< 6.26 pg/l	< 1.81 pg/l	< 1.81 pg/l	< 1.68 pg/l	<b>2.54 EMPC pg/l</b>	<b>7.16 j pg/l</b>
Dioxin octa	NA	Lab	<b>33.4 j pg/l</b>	<b>16.0 j pg/l</b>	<b>11.7 j pg/l</b>	< 44.8 pg/l	<b>14.8 j pg/l</b>	<b>14.8 j pg/l</b>	<b>4.46 EMPC pg/l</b>	<b>7.63 j pg/l</b>	<b>20.4 j pg/l</b>
2,3,7,8-Dibenzofuran, tetra	NA	Lab	< 0.548 pg/l	< 1.27 pg/l	< 0.535 pg/l	< 1.18 pg/l	< 4.43 pg/l	< 4.43 pg/l	< 1.17 pg/l	<b>1.57 j pg/l</b>	< 0.583 pg/l
1,2,3,7,8-Dibenzofuran, penta	NA	Lab	< 0.389 pg/l	< 0.301 pg/l	< 0.368 pg/l	< 0.525 pg/l	< 1.77 pg/l	< 1.77 pg/l	< 0.945 pg/l	<b>0.901 j pg/l</b>	< 0.430 pg/l
2,3,4,7,8-Dibenzofuran, penta	NA	Lab	< 0.385 pg/l	< 0.298 pg/l	< 0.359 pg/l	< 0.511 pg/l	< 1.73 pg/l	< 1.73 pg/l	< 0.912 pg/l	<b>1.15 j pg/l</b>	< 0.425 pg/l
1,2,3,4,7,8-Dibenzofuran, hexa	NA	Lab	<b>1.45 j pg/l</b>	< 0.185 pg/l	< 0.212 pg/l	< 0.465 pg/l	< 1.36 pg/l	< 1.36 pg/l	< 0.554 pg/l	<b>2.86 j pg/l</b>	<b>3.62 EMPC pg/l</b>
1,2,3,6,7,8-Dibenzofuran, hexa	NA	Lab	< 0.452 pg/l	< 0.178 pg/l	< 0.199 pg/l	< 0.434 pg/l	< 1.27 pg/l	< 1.27 pg/l	< 0.545 pg/l	<b>1.32 EMPC pg/l</b>	< 0.440 pg/l
1,2,3,7,8,9-Dibenzofuran, hexa	NA	Lab	< 0.589 pg/l	< 0.231 pg/l	< 0.245 pg/l	< 0.533 pg/l	< 1.56 pg/l	< 1.56 pg/l	< 0.642 pg/l	< 0.365 pg/l	< 0.589 pg/l
2,3,4,6,7,8-Dibenzofuran, hexa	NA	Lab	< 0.505 pg/l	< 0.199 pg/l	< 0.224 pg/l	< 0.492 pg/l	< 1.44 pg/l	< 1.44 pg/l	< 0.586 pg/l	<b>1.61 j pg/l</b>	< 0.503 pg/l
1,2,3,4,6,7,8-Dibenzofuran, hepta	NA	Lab	<b>5.95 j pg/l</b>	<b>0.954 j pg/l</b>	< 0.411 pg/l	< 1.62 pg/l	< 1.14 pg/l	< 1.14 pg/l	< 0.911 pg/l	<b>5.72 EMPC pg/l</b>	<b>5.06 EMPC pg/l</b>
1,2,3,4,7,8,9-Dibenzofuran, hepta	NA	Lab	< 1.35 pg/l	< 0.229 pg/l	< 0.543 pg/l	< 0.743 pg/l	< 1.51 pg/l	< 1.51 pg/l	< 1.15 pg/l	<b>4.32 EMPC pg/l</b>	< 1.17 pg/l
Dibenzofuran octa	NA	Lab	<b>99.6 pg/l</b>	<b>3.00 EMPC pg/l</b>	<b>2.47 j pg/l</b>	< 6.60 pg/l	< 3.24 pg/l	< 3.24 pg/l	< 2.25 pg/l	<b>28.9 j pg/l</b>	<b>15.0 j pg/l</b>

**Table A-3  
Laboratory Blank Sample Results  
St. Regis Paper Company Site**

		Sys Loc Code	QC
		Sample Date	11/20/2009
		Sample Type Code	Lab Blank
Chemical Name	Total or Dissolved	Analysis Location	
Chlorinated Dioxins / Furans			
2,3,7,8-Dioxin, tetra	NA	Lab	< 0.790 pg/l
1,2,3,7,8-Dioxin penta	NA	Lab	< 0.860 pg/l
1,2,3,4,7,8-Dioxin, hexa	NA	Lab	< 1.10 pg/l
1,2,3,6,7,8-Dioxin, hexa	NA	Lab	< 0.998 pg/l
1,2,3,7,8,9-Dioxin, hexa	NA	Lab	< 1.06 pg/l
1,2,3,4,6,7,8-Dioxin, hepta	NA	Lab	<b>1.72 j pg/l</b>
Dioxin octa	NA	Lab	<b>7.29 j pg/l</b>
2,3,7,8-Dibenzofuran, tetra	NA	Lab	< 0.943 pg/l
1,2,3,7,8-Dibenzofuran, penta	NA	Lab	< 0.648 pg/l
2,3,4,7,8-Dibenzofuran, penta	NA	Lab	< 0.642 pg/l
1,2,3,4,7,8-Dibenzofuran, hexa	NA	Lab	< 0.517 pg/l
1,2,3,6,7,8-Dibenzofuran, hexa	NA	Lab	< 0.494 pg/l
1,2,3,7,8,9-Dibenzofuran, hexa	NA	Lab	< 0.661 pg/l
2,3,4,6,7,8-Dibenzofuran, hexa	NA	Lab	< 0.564 pg/l
1,2,3,4,6,7,8-Dibenzofuran, hepta	NA	Lab	<b>1.02 j pg/l</b>
1,2,3,4,7,8,9-Dibenzofuran, hepta	NA	Lab	< 1.04 pg/l
Dibenzofuran octa	NA	Lab	< 1.72 pg/l

Data Qualifiers/Footnotes	
Qualifier	Definition
--	Not analyzed/not available.
a	Estimated value, calculated using some or all values that are estimates.
b	Potential false positive value based on blank data validation procedures.
c	Coeluting compound.
e	Estimated value, exceeded the instrument calibration range.
h	EPA recommended sample preservation, extraction or analysis holding time was exceeded.
l	Indeterminate value based on failure of blind duplicate data to meet quality assurance criteria.
j	Reported value is less than the stated laboratory quantitation limit and is considered an estimated value.
p	Relative percent difference is >40% (25% CLP pesticides) between primary and confirmation GC columns.
pp	Small peak in chromatogram below method detection limit.
r	The presence of the compound is suspect based on the ID criteria of the retention time and relative retention time obtained from the examination of the chromatograms.
s	Potential false positive value based on statistical analysis of blank sample data.
*	Estimated value, QA/QC criteria not met.
**	Unusable value, QA/QC criteria not met.
N	Sample Type: Normal
FD	Sample Type: Field Duplicate
AT	Sample chromatogram is noted to be atypical of a petroleum product.
DLND	Not detected, detection limit not determined.
DNF	Did not flash
EMPC	Estimated maximum possible concentration.
NA – (Not applicable)	NA indicates that a fractional portion of the sample is not part of the analytical testing or field collection procedures.
ND	Not detected.
TIC	Tentatively identified compound
BQA	Barr-applied project specific qualifier: extraction and/or analyses conducted using an alternative method and/or procedure.
BQC	Barr-applied project specific qualifier: plant shut down.
BQD	Barr-applied project specific qualifier: equipment malfunction.
BQE	Barr-applied project specific qualifier: equipment adjustment.
BQM	Barr-applied project specific qualifier: manual measurement.
BQN	Barr-applied project specific qualifier: unable to be sampled or measured due to various reasons.
BQP	Barr-applied project specific qualifier: atypical chromatographic pattern.

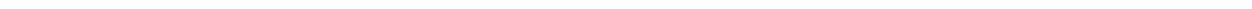
<b>Data Qualifiers/Footnotes</b>	
<b>Qualifier</b>	<b>Definition</b>
BQQ	Barr-applied project specific qualifier: some aspect of QA/QC was not met.
BQR	Barr-applied project specific qualifier: location was re-sampled.
BQS	Barr-applied project specific qualifier: data is considered suspect.
BQT	Barr-applied project specific qualifier: summed value not displayed due to insufficient field length.
BQU	Barr-applied project specific qualifier: historical qualifier - definition unknown.
BQV	Barr-applied project specific qualifier: estimated value.
BQX	Barr-applied project specific qualifier: see notes for qualifier definition.
BQZ	Barr-applied project specific qualifier: data is considered unusable.

## **Appendix B**

**Laboratory Analytical Reports  
(On Enclosed CD)**

## **Appendix C**

### **Containment Vault Inspection Forms**



5-11-09

CASS LAKE CONTAINMENT VAULT

INSPECTION FORM

Instructions: Mark the correct response with an "X" after inspecting each component of the vault. Any corrective action required by this inspection will be implemented as stated in the Revised Post-Closure Submittal, April 1992. This inspection form was developed to meet the requirements of MN Rules 7045.0452, Subp. 5, Item B.

I. Run-on Control System

- 1. Is there debris in the run-on control system?
- 2. Is there debris blocking the culvert?
- 3. Is there a significant amount of standing water in the run-on control system?
- 4. Are there any signs of erosion to the run-on control system? (depressions, gullies, change in contour)
- 5. Are there any areas that lack adequate vegetation?
- 6. Is there any other deficiency of the run-on control system? (Describe in Section VI)

Yes No

<input type="checkbox"/>	<input checked="" type="checkbox"/>

II. Run-off Control System

- 1. Is there debris on the side slopes?
- 2. Are there any signs of erosion of the side slopes? (Depressions, gullies, change in contour)
- 3. Are there any areas that lack adequate vegetation on the side slopes?
- 4. Is there debris on top of the vault?
- 5. Are there any signs of erosion to the top of the vault? (Depressions, gullies, change in contour)
- 6. Are there any areas that lack adequate vegetation on top of the vault?
- 7. Is there any evidence of uneven settling of the cap? (Depressions, standing water)
- 8. Is there debris in the storm sewer system?
- 9. Is there any other deficiency of the run-off control system? (Describe in Section VI)

<input type="checkbox"/>	<input checked="" type="checkbox"/>

III. Leachate Collection Manhole (LCM) and Leak Detection Manhole (LDM)

- 1. Is there leachate in the LCM?  
Depth to leachate: 31.35
- 2. Is there leachate in the LDM?  
Depth to leachate: 32.05'

<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>

Yes No

- 3. Is the leachate evaporation system not functional? *NA*
- 4. Is the LCM or LDM not covered?
- 5. Is there any damage to the LCM or LDM?  
(Describe in Section VI)

IV. Benchmarks and Wells

- 1. Has any benchmark or protective post been damaged?
- 2. Has any well or protective post been damaged?
- 3. Is any well not locked?
- 4. Is there any other deficiency noted?  
(Describe in Section VI)

V. Security System

- 1. Is there any damage to the chain link fence?
- 2. Is the gate unlocked when it is not attended?
- 3. Are there any other deficiencies noted?  
(Describe in Section VI)

VI. Describe any other deficiencies or damage to any component of the vault. (Add additional pages, if necessary)

VII. Describe any corrective action required as the result of this inspection. Corrective action is required for each "Yes" response, except Section III, questions 1 & 2. (Add additional pages, if necessary)

Inspected by: JAMIE EIDSMOR Inspection Date 5-11-09  
(Please Print)

Signature: Jamie Eidsmor Date: 5-11-09

CASS LAKE CONTAINMENT VAULT

INSPECTION FORM

Instructions: Mark the correct response with an "X" after inspecting each component of the vault. Any corrective action required by this inspection will be implemented as stated in the Revised Post-Closure Submittal, April 1992. This inspection form was developed to meet the requirements of MN Rules 7045.0452, Subp. 5, Item B.

- | I. Run-on Control System  | <u>Yes</u>               | <u>No</u>                           |
|---|--------------------------|-------------------------------------|
| 1. Is there debris in the run-on control system?  | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Is there debris blocking the culvert?  | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Is there a significant amount of standing water in the run-on control system?                          | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4. Are there any signs of erosion to the run-on control system? (depressions, gullies, change in contour) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5. Are there any areas that lack adequate vegetation?   | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 6. Is there any other deficiency of the run-on control system? (Describe in Section VI)                   | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

- | II. Run-off Control System   | <u>Yes</u>               | <u>No</u>                           |
|--|--------------------------|-------------------------------------|
| 1. Is there debris on the side slopes?   | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Are there any signs of erosion of the side slopes? (Depressions, gullies, change in contour)      | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Are there any areas that lack adequate vegetation on the side slopes?                             | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4. Is there debris on top of the vault?  | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5. Are there any signs of erosion to the top of the vault? (Depressions, gullies, change in contour) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 6. Are there any areas that lack adequate vegetation on top of the vault?                            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 7. Is there any evidence of uneven settling of the cap? (Depressions, standing water)                | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 8. Is there debris in the storm sewer system?  | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 9. Is there any other deficiency of the run-off control system? (Describe in Section VI)             | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

- | III. Leachate Collection Manhole (LCM) and Leak Detection Manhole (LDM) | <u>Yes</u>                          | <u>No</u>                |
|---|-------------------------------------|--------------------------|
| 1. Is there leachate in the LCM?<br>Depth to leachate: <u>31.42'</u>    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Is there leachate in the LDM?<br>Depth to leachate: <u>31.94'</u>    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Yes No

- 3. Is the leachate evaporation system not functional?  NA
- 4. Is the LCM or LDM not covered?
- 5. Is there any damage to the LCM or LDM?  
(Describe in Section VI)

IV. Benchmarks and Wells

- 1. Has any benchmark or protective post been damaged?
- 2. Has any well or protective post been damaged?
- 3. Is any well not locked?
- 4. Is there any other deficiency noted?  
(Describe in Section VI)

V. Security System

- 1. Is there any damage to the chain link fence?
- 2. Is the gate unlocked when it is not attended?
- 3. Are there any other deficiencies noted?  
(Describe in Section VI)

VI. Describe any other deficiencies or damage to any component of the vault. (Add additional pages, if necessary)

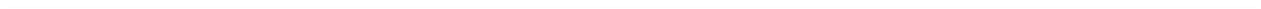
VII. Describe any corrective action required as the result of this inspection. Corrective action is required for each "Yes" response, except Section III, questions 1 & 2. (Add additional pages, if necessary)

Inspected by: Jamie Eidsmoe Inspection Date 11-3-09  
(Please Print)

Signature: Jamie Eidsmoe Date: 11-3-09

## **Appendix D**

### **Water Quality Trend Analysis**



## Water Quality Data Trend Analysis

Appendix D contains graphs of water quality over time for each of the site wells. There are two graphs for each well, one for pentachlorophenol and one for naphthalene data. These chemicals were selected since they are they have the highest mobility of the chemicals of potential concern at the St. Regis Paper Company Site. Pentachlorophenol is regulated as a carcinogen with a drinking water standard of 1 µg/L. Other carcinogenic chemicals of potential concern are not detected in samples from monitoring wells located near the channel or Fox Creek as their mobility is significantly less than pentachlorophenol. Naphthalene is present at most monitoring locations and is typically present at the highest concentration of the PAH compounds. Therefore, it was selected as an indicator of the trends that may be associated with the other PAH compounds.

The sample results are shown using two types of markers. A closed marker indicates that the parameter was identified at the specified concentration. An open marker indicates that the parameter was not identified at the method quantitation limits.

Statistical methods were used, where appropriate, to evaluate the water quality trends. Statistical methods described in “Methods for Evaluating the Attainment of Cleanup Standards, Volume 2: Groundwater”, U.S. EPA 1992, were used to predict when monitoring locations are expected to attain the specified limit. The linear regression methodology and worksheets (i.e., 1R and 2R) described in Section 6.0 of the EPA guidance (EPA, 1992) were utilized to statistically analyze the data and make an appropriate prediction. The concentration data was transformed using base-10 logarithm before regression calculations were performed. The “Goodness of Fit” for the linear regression methodology was evaluated by calculating the Coefficient of Determination [ $R^2$ ]. For this appendix, a  $R^2$  value  $\geq 0.6$  was considered reasonable for predicting future observations (consistent with EPA Guidance). For these graphs, the linear regression line is plotted along with curves that represent the upper and lower 95% confidence interval based on the linear regression. Regressions are not plotted if the  $R^2$  is  $< 0.6$  or a significant portion of the data set is below the respective quantitation limit.

Groundwater limits are also included on the graphs and represent the current drinking water criteria as recommended in the Third Five-Year Report. The basis for these limits is summarized below:

Groundwater	Limit	Basis
Pentachlorophenol	1 µg/L	Current drinking water criteria (Maximum Contaminant Level {MCL})
	5.5 µg/L	Minnesota Class 2B Surface Water Standard (Assuming pH = 7.0)
Naphthalene	300 µg/L	Current drinking water criteria (Minnesota Health Risk Level {MN HRL})
	81 µg/L	Minnesota Class 2B Surface Water Standard

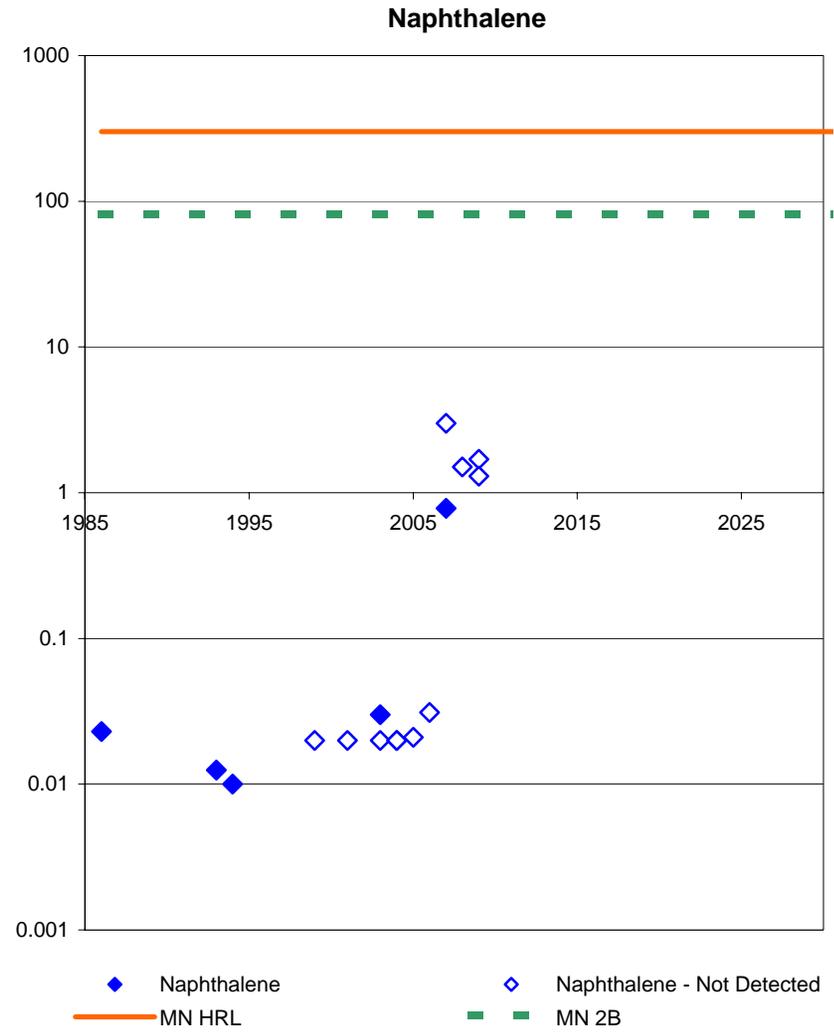
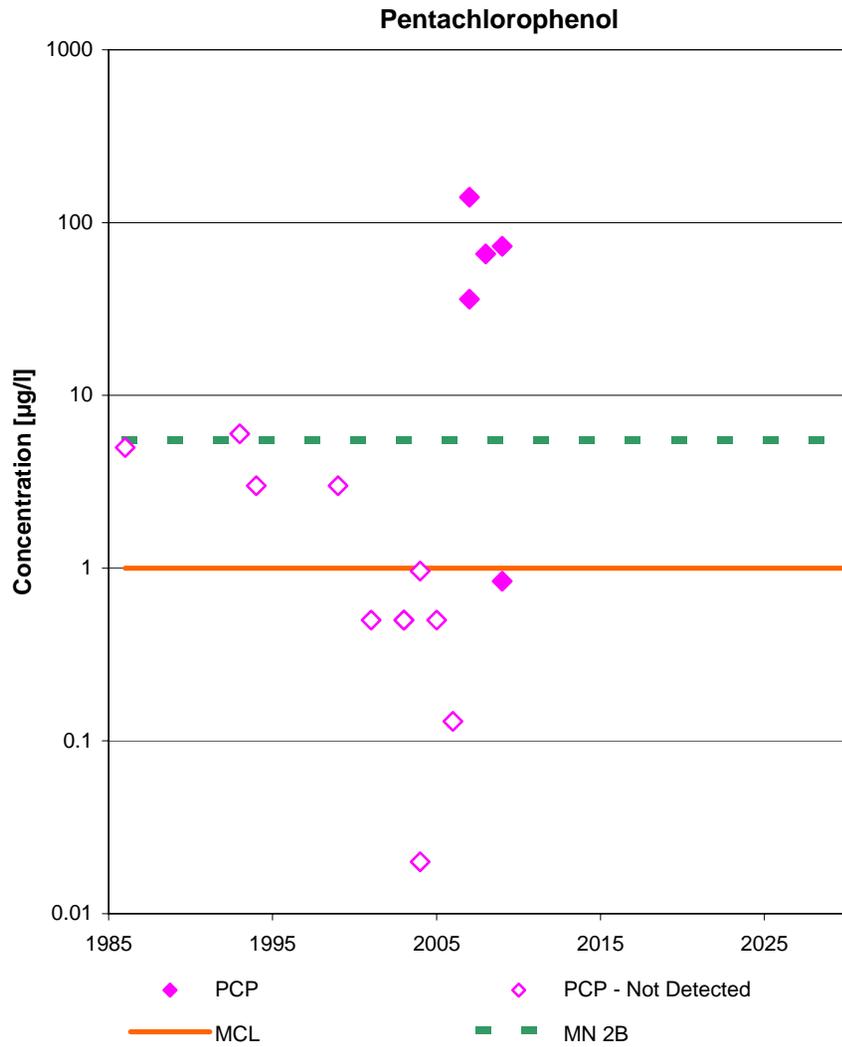
The following table provides a summary of this trend analysis:

Monitoring Well ID	PCP		Naphthalene		Comments
	< DWC	< SWS	< DWC	< SWS	
<b>OU1 – Treating Facility Area</b>					
W105R	No	No	Yes	Yes	PCP detected in replacement well. Additional data needed to evaluate trends. PCP concentration in November 2009 sample was <DWC and <SWS.
W114	Yes	Yes	Yes	Yes	PCP below detection limit. Trace levels of naphthalene – no trend identified.
W115	Yes	Yes	Yes	Yes	PCP below detection limit. Trace levels of naphthalene – no trend identified.
W212	No	No	Yes	Yes	PCP and naphthalene concentrations have been steady for the last 5 years, but overall demonstrate a decreasing trend. Groundwater flow may be stagnated in this area.
W213	Yes	Yes	Yes	Yes	PCP concentrations have been reduced to below detection limit. Naphthalene concentrations show a significant reduction since 2007.
W215	Yes	Yes	Yes	Yes	PCP and naphthalene concentrations demonstrate a continuing decreasing trend. PCP was not detected for the first time in 2008 and remains not detected in 2009.
W220	No	No	Yes	Yes	Naphthalene concentrations demonstrate a continuing decreasing trend. PCP reduced from 1,000 µg/l in 1994 to 1 µg/l in November 2009. PCP concentration over time has been variable in the last 6 years.
W306	Yes	Yes	Yes	Yes	
<b>OU2 – Containment Vault Area</b>					
W124	Yes	Yes	Yes	Yes	PCP concentration is below detection limit. Trace naphthalene concentrations periodically detected. No trend of increasing concentrations

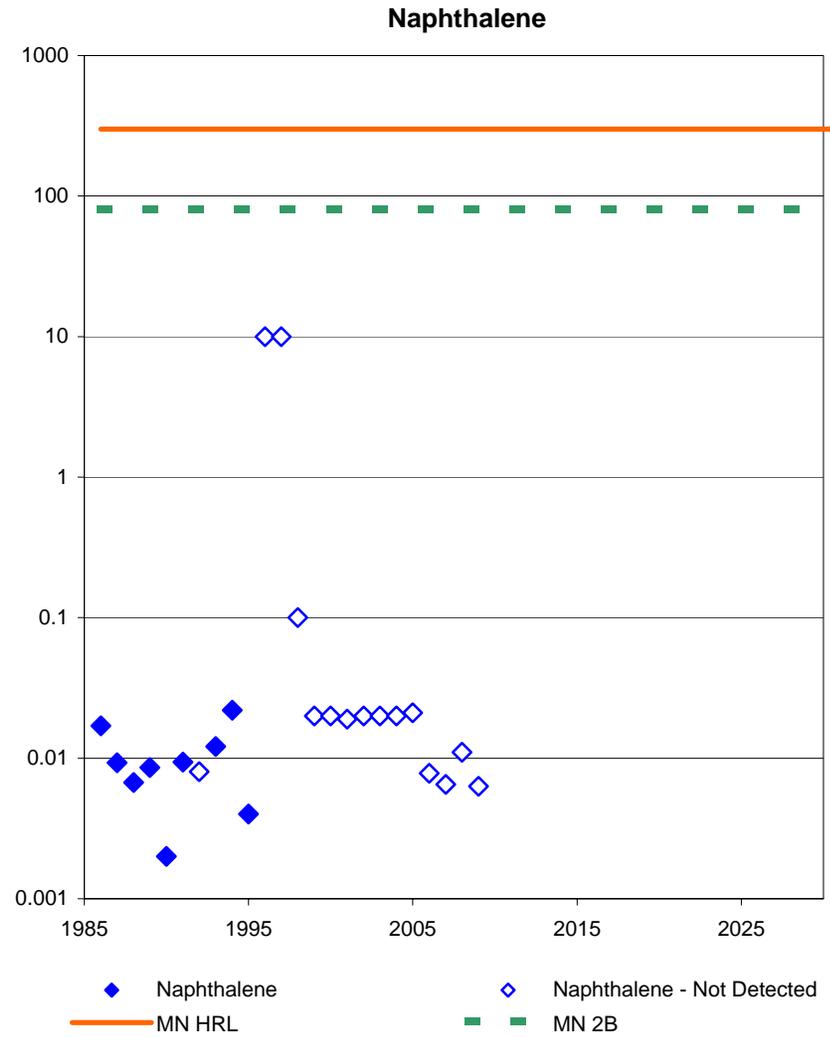
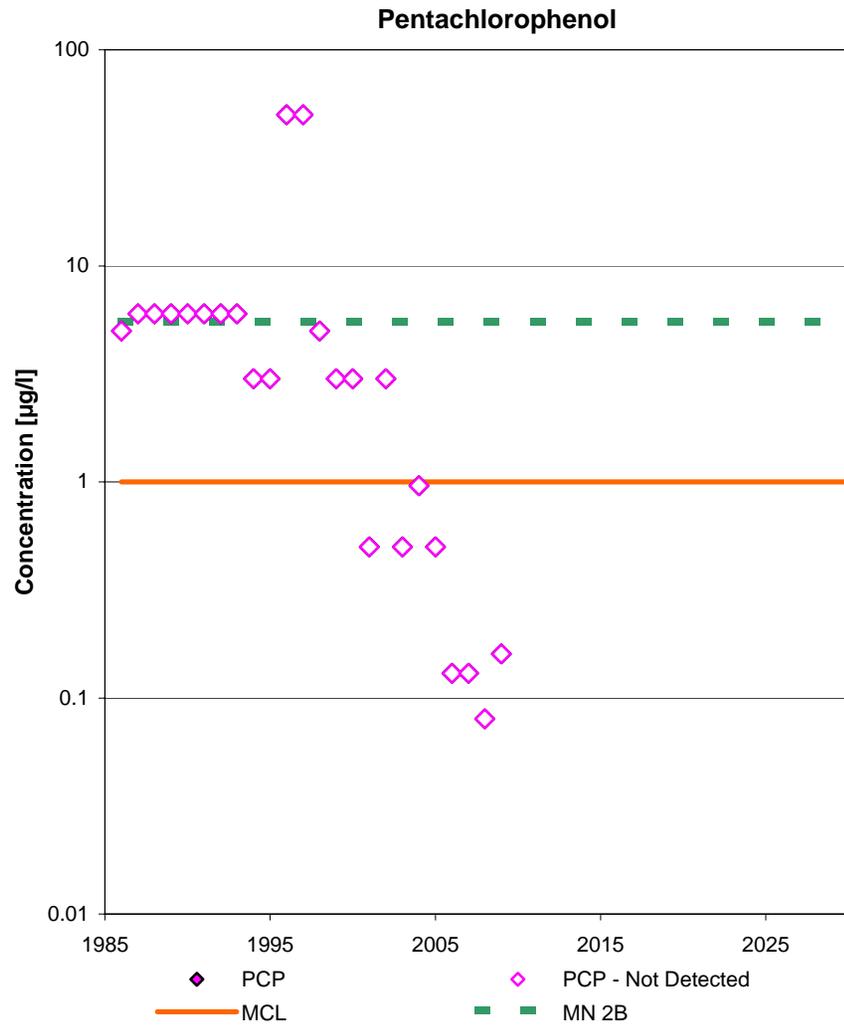
Monitoring Well ID	PCP		Naphthalene		Comments
	< DWC	< SWS	< DWC	< SWS	
W125	Yes	Yes	Yes	Yes	PCP concentration is below detection limit. Trace naphthalene concentrations periodically detected. No trend of increasing concentrations
W126	Yes	Yes	Yes	Yes	PCP concentration is below detection limit. Trace naphthalene concentrations periodically detected. No trend of increasing concentrations
W127	Yes	Yes	Yes	Yes	PCP concentration is below detection limit. Return to undetected status reinforces the idea of contamination in the 2007 sample detected above the DWC. Trace naphthalene concentrations periodically detected. No trend of increasing concentrations
W128	Yes	Yes	Yes	Yes	PCP concentration is below detection limit. Trace naphthalene concentrations periodically detected. No trend of increasing concentrations
W129	Yes	Yes	Yes	Yes	PCP concentration is below detection limit. Trace naphthalene concentrations periodically detected. No trend of increasing concentrations
W130	Yes	Yes	Yes	Yes	PCP concentration is below detection limit. Trace naphthalene concentrations periodically detected. No trend of increasing concentrations
<b>OU3 – City Dump Area</b>					
W2106	No	No	Yes	No	Variable PCP and naphthalene concentrations – no trend identified.
W2127	Yes	Yes	Yes	Yes	PCP concentration is below detection limit. Trace naphthalene concentrations that are below drinking water criteria and surface water standards. No trend of increasing concentrations identified.
W2128	No	Yes	Yes	Yes	PCP concentrations are variable but near the intervention limit specified for this monitoring well. Variable naphthalene concentrations. No trend of increasing concentrations identified. Groundwater flow may be stagnated in this area.
W2129	Yes	Yes	Yes	Yes	PCP concentration is below detection limit. Trace naphthalene concentrations periodically detected. No trend of increasing concentrations
W2135	Yes	Yes	Yes	Yes	PCP concentration is below detection limit. Trace naphthalene concentrations infrequently detected. No trend of increasing concentration identified
W2228	Yes	Yes	Yes	Yes	Naphthalene not detected. PCP detected at concentration below DWC and SWS.
W2233	Yes	Yes	Yes	Yes	PCP concentration is below detection limit. Trace naphthalene concentrations periodically detected. No trend of increasing concentrations identified
W2234	Yes	Yes	Yes	Yes	PCP concentration is below detection limit. Trace naphthalene concentrations periodically detected. No trend of increasing concentrations identified
W2236	Yes	Yes	Yes	Yes	No trend of increasing concentrations identified.
W2238	No	Yes	Yes	No	Slight increase in PCP and naphthalene concentration between 2008 and 2009. Continued monitoring needed to evaluate trend. Well is screened near DNAPL zone.

Monitoring Well ID	PCP		Naphthalene		Comments
	< DWC	< SWS	< DWC	< SWS	
W2335	Yes	Yes	Yes	Yes	PCP concentration is below detection limit. Trace naphthalene concentrations have been detected. No trend of increasing concentrations identified.
W2336	Yes	Yes	Yes	Yes	Trace PCP and naphthalene concentrations have been detected. No trend of increasing concentrations identified.
<b>Fish Hatchery Wells</b>					
Fish 4	Yes	Yes	Yes	Yes	PCP concentrations are below detection limit. Trace naphthalene concentrations are below drinking water criterion and surface water standard.

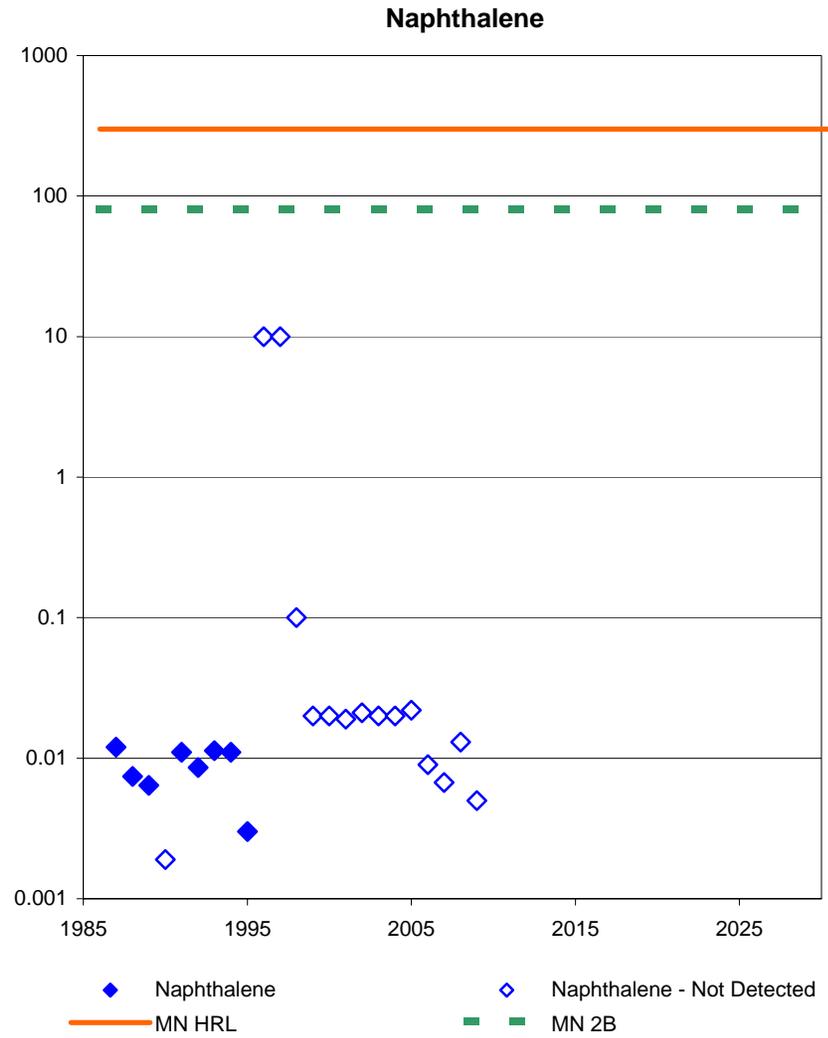
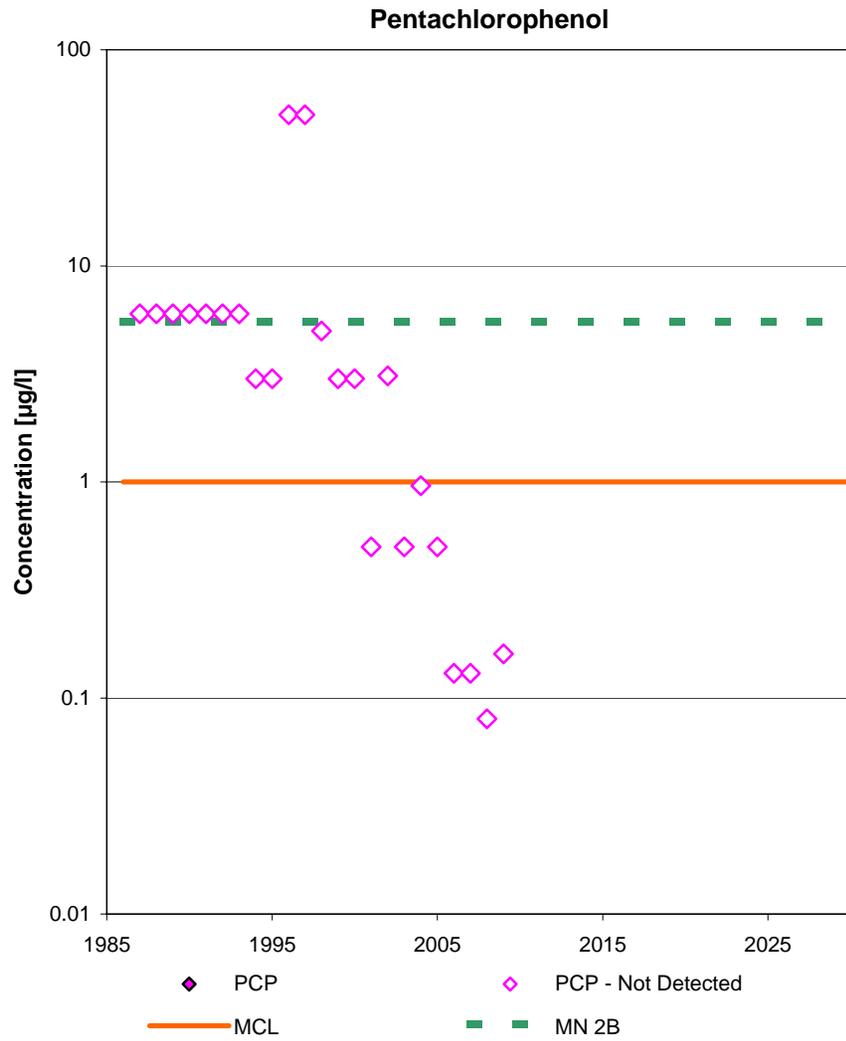
# Well 105/105R St. Regis Paper Company Site



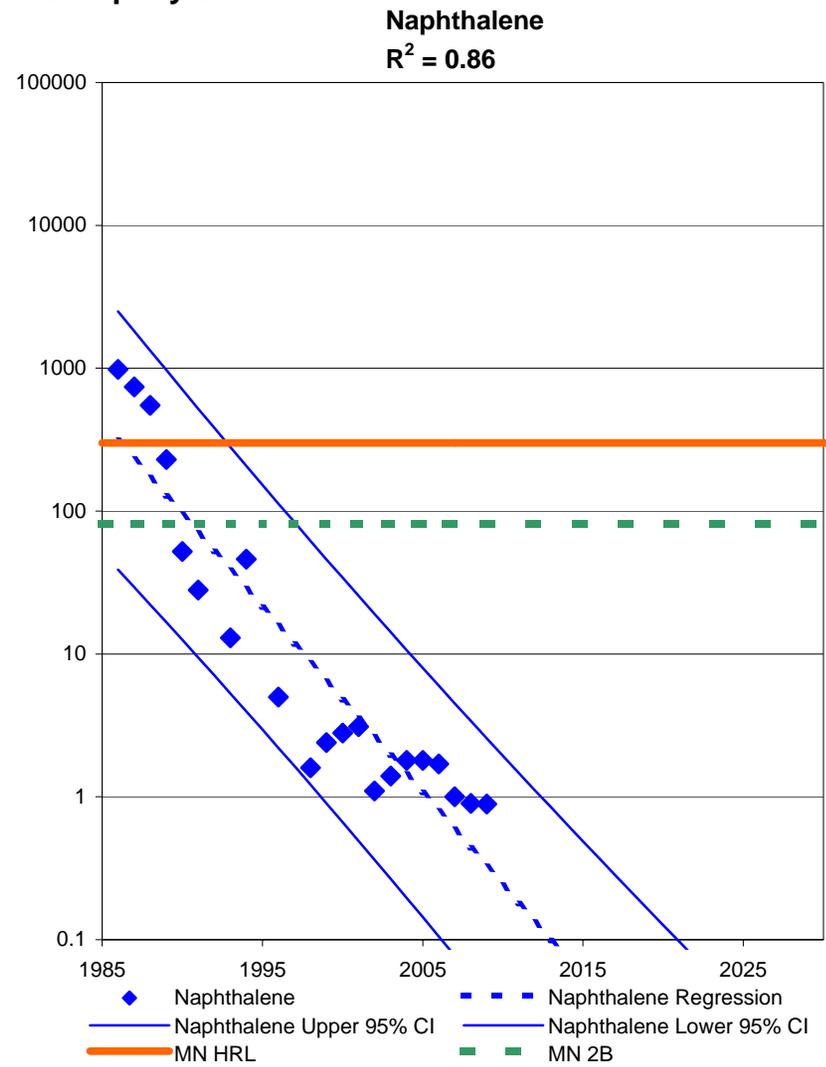
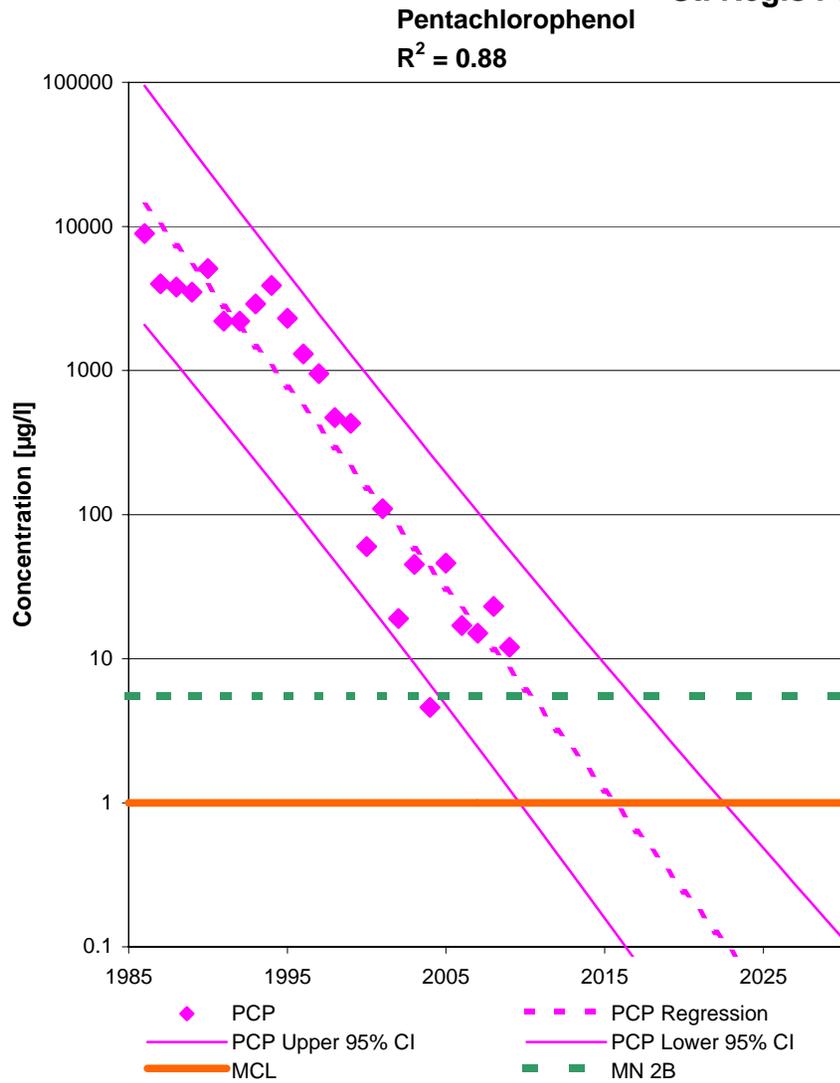
## Well 114 St. Regis Paper Company Site



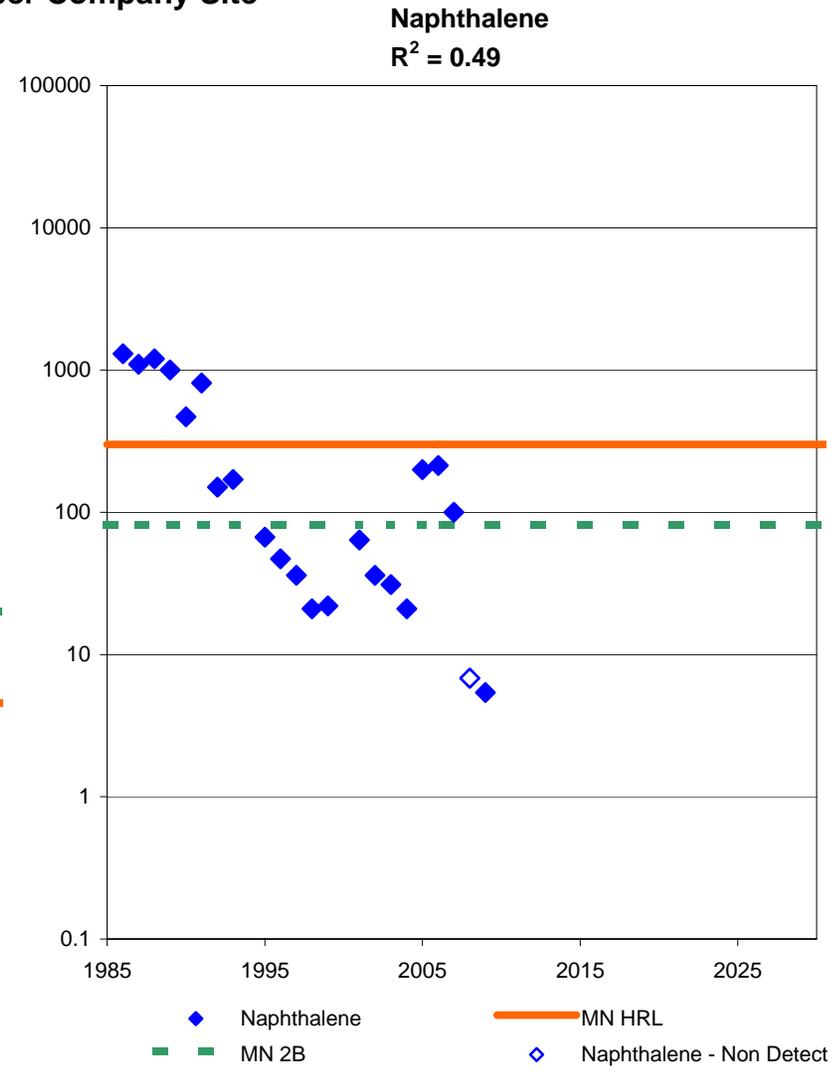
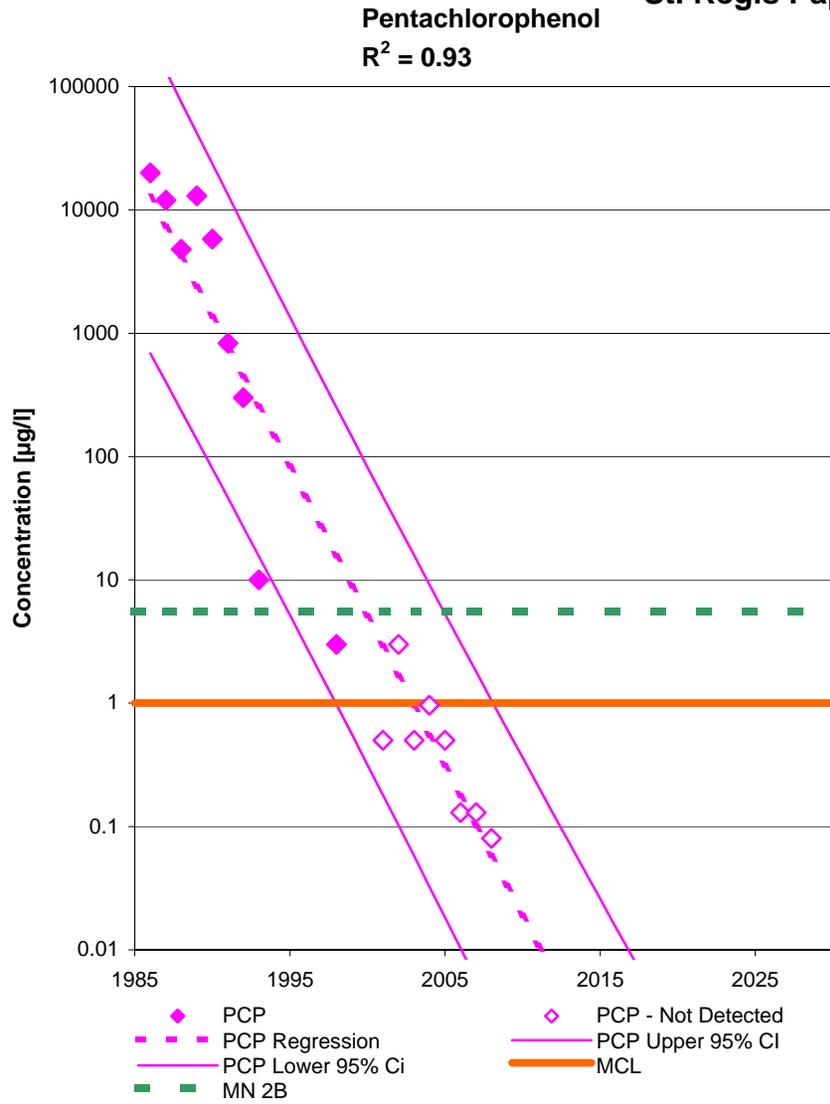
# Well 115 St. Regis Paper Company Site



**Well 212  
St. Regis Paper Company Site**



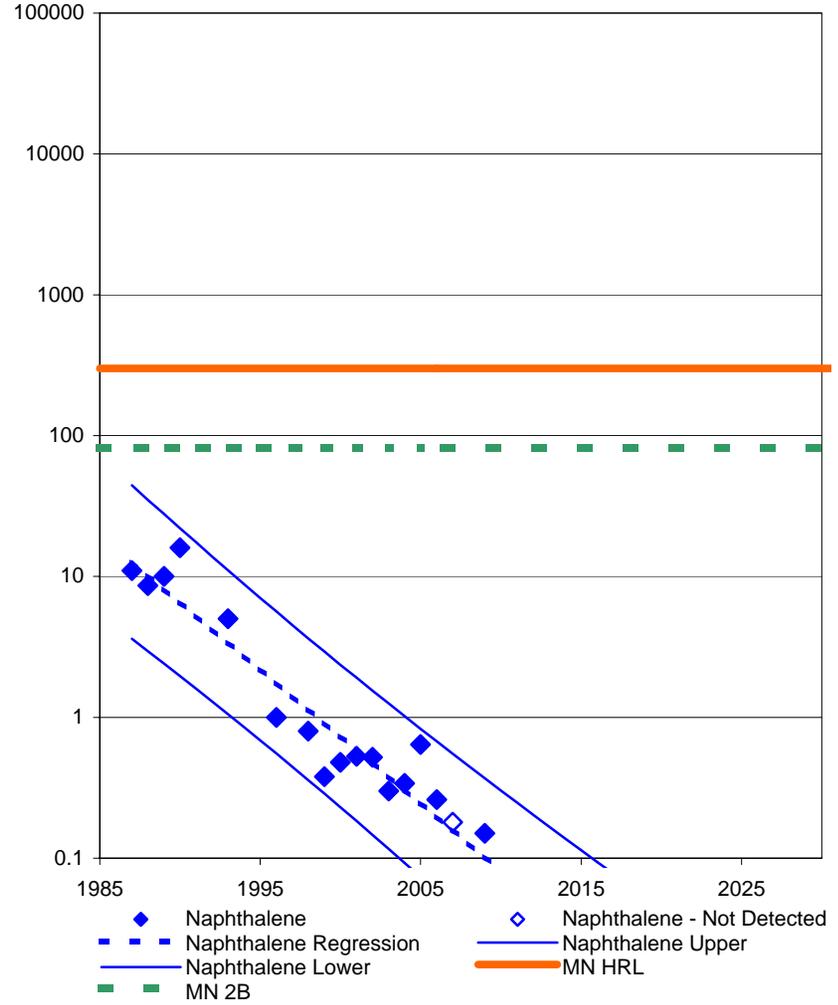
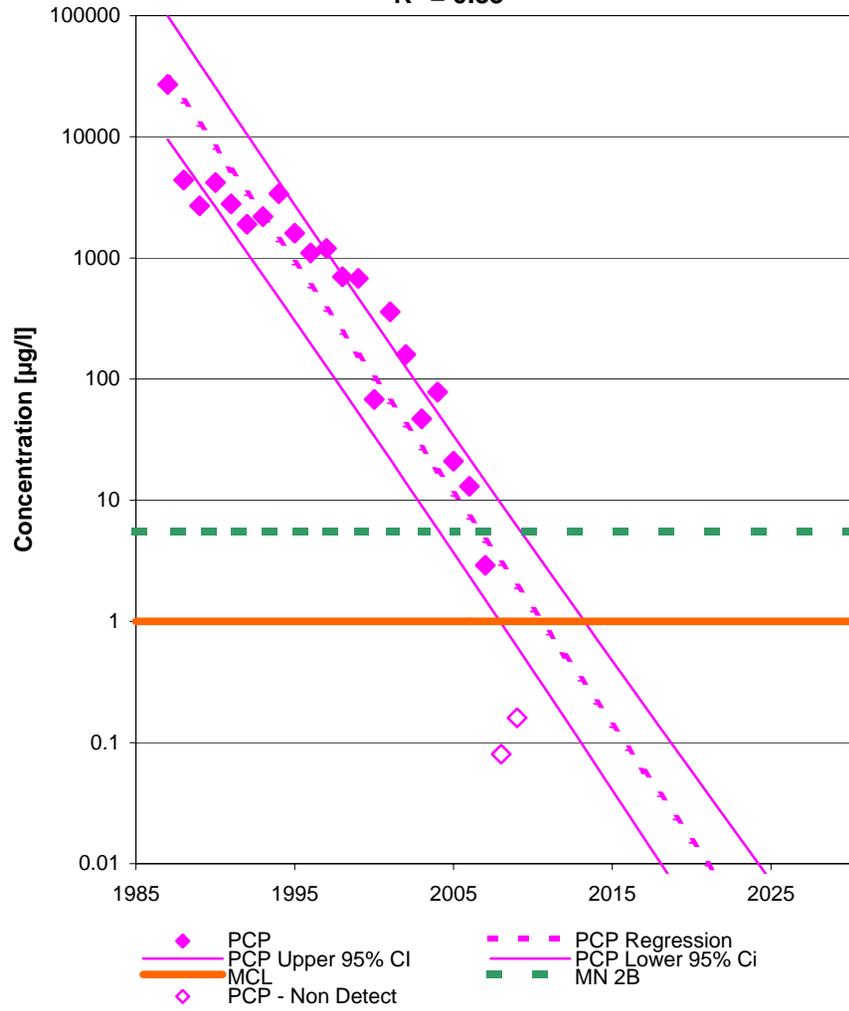
**Well 213  
St. Regis Paper Company Site**



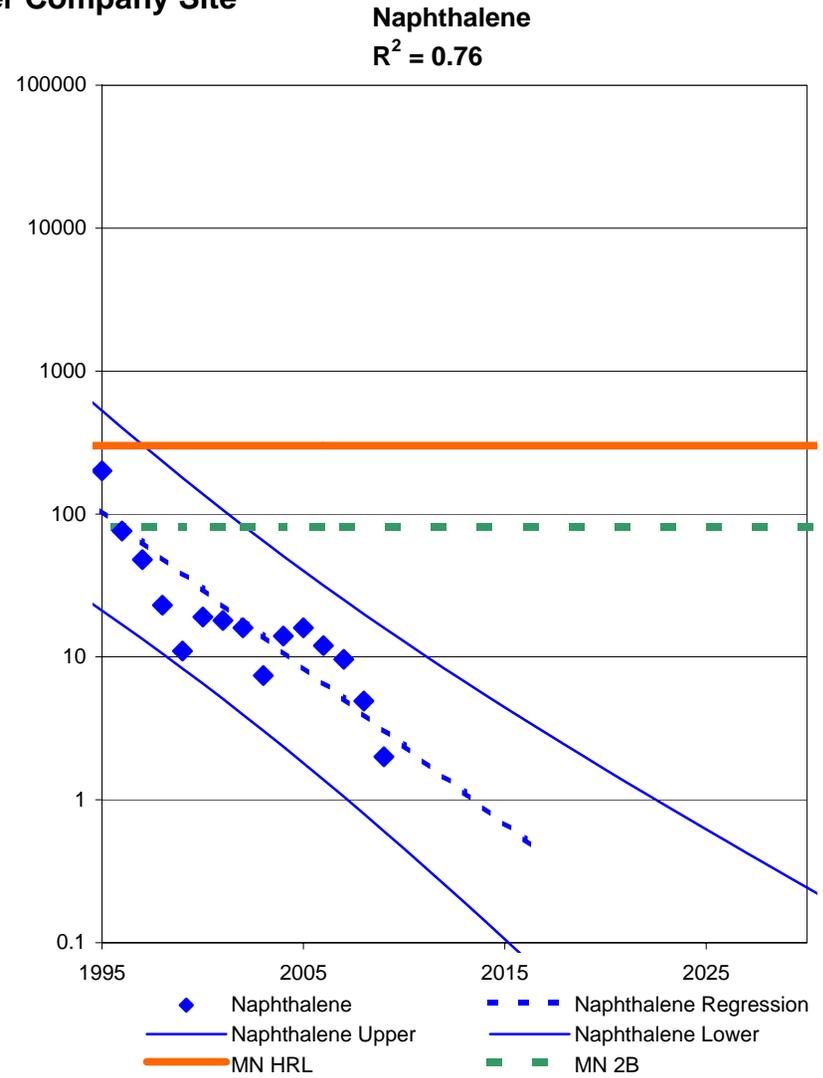
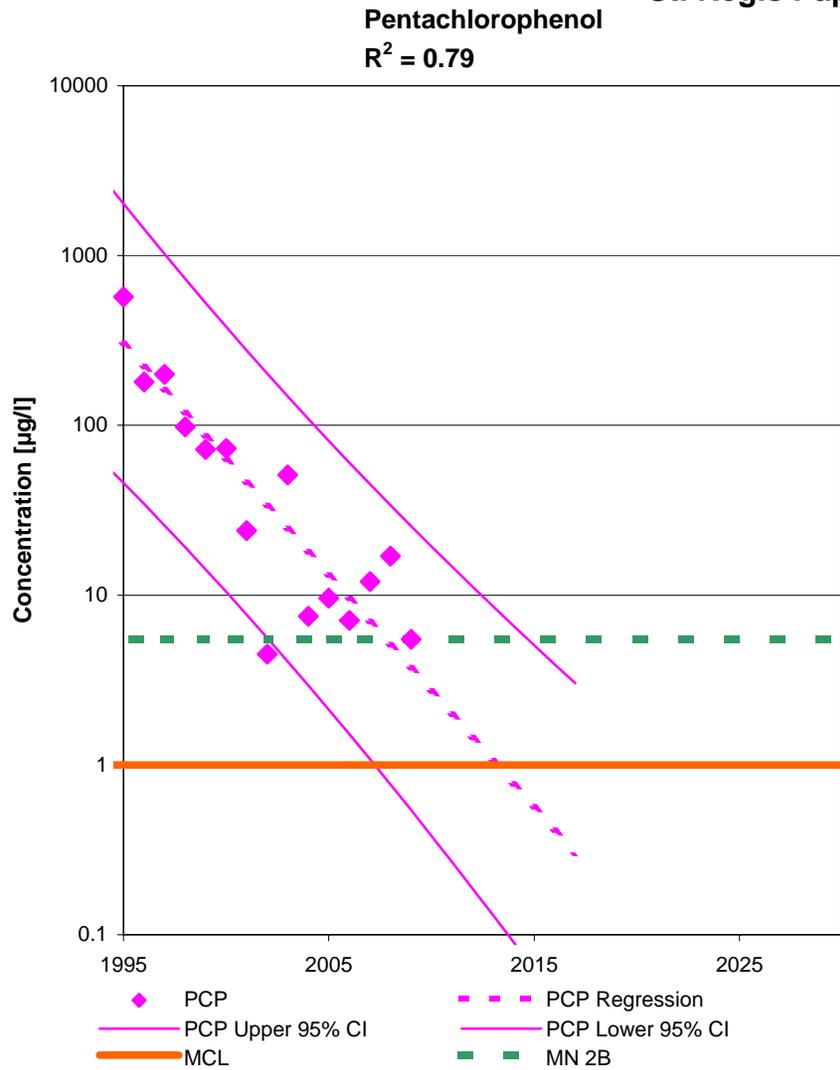
**Well 215  
St. Regis Paper Company Site**

**Pentachlorophenol**  
 $R^2 = 0.83$

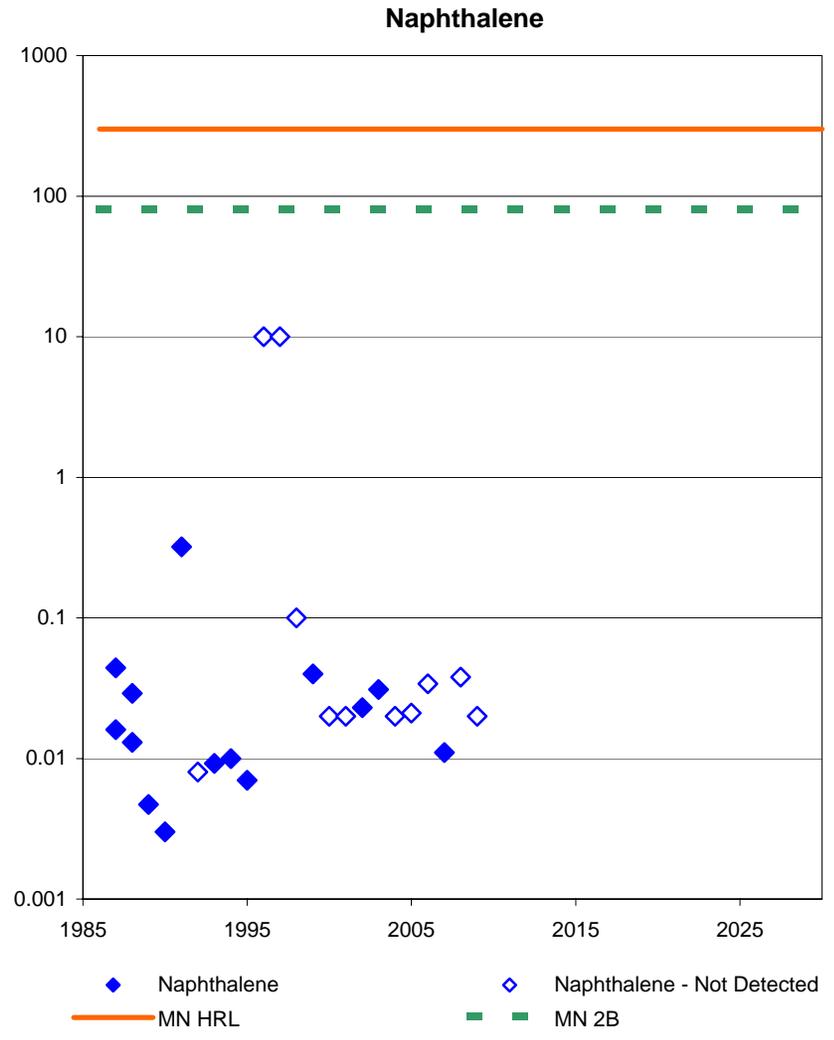
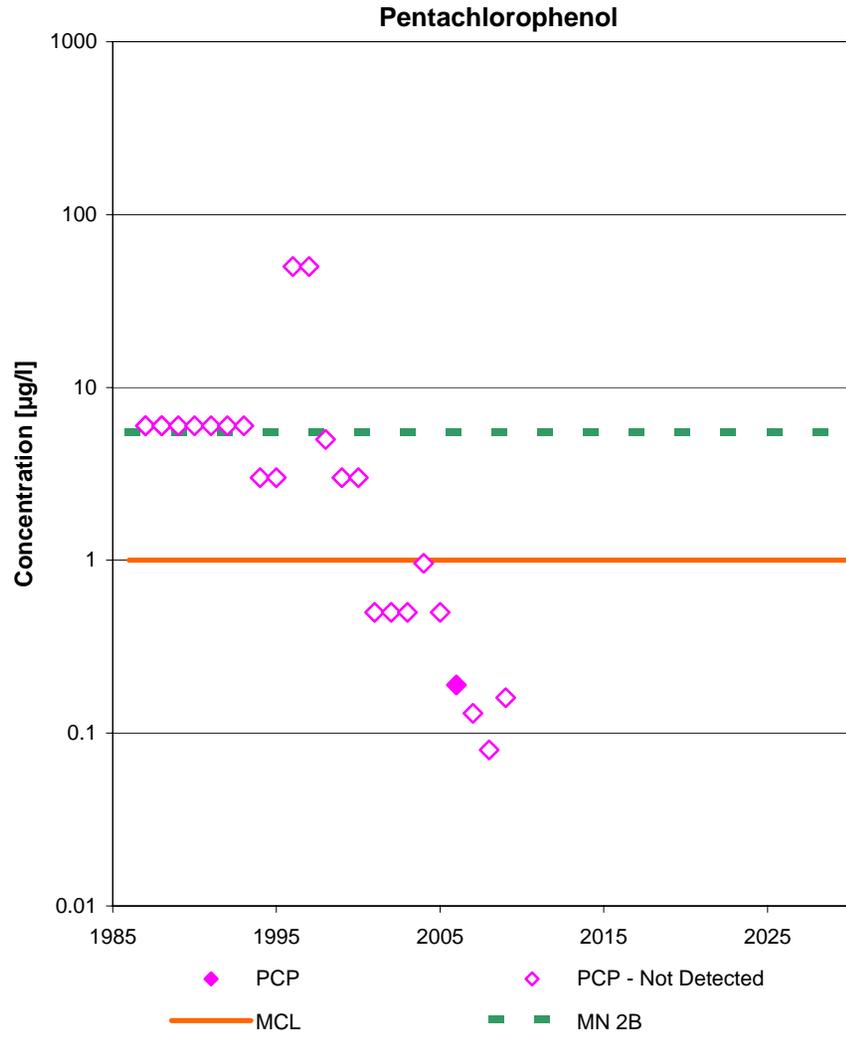
**Naphthalene**  
 $R^2 = 0.90$



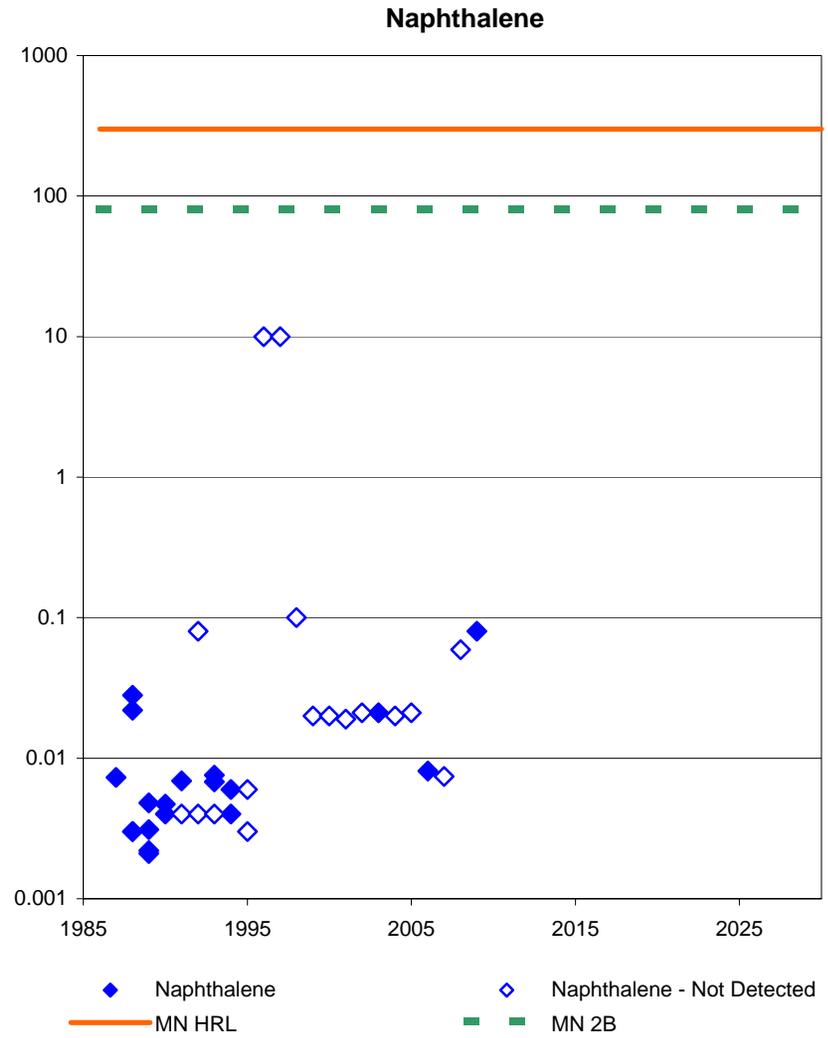
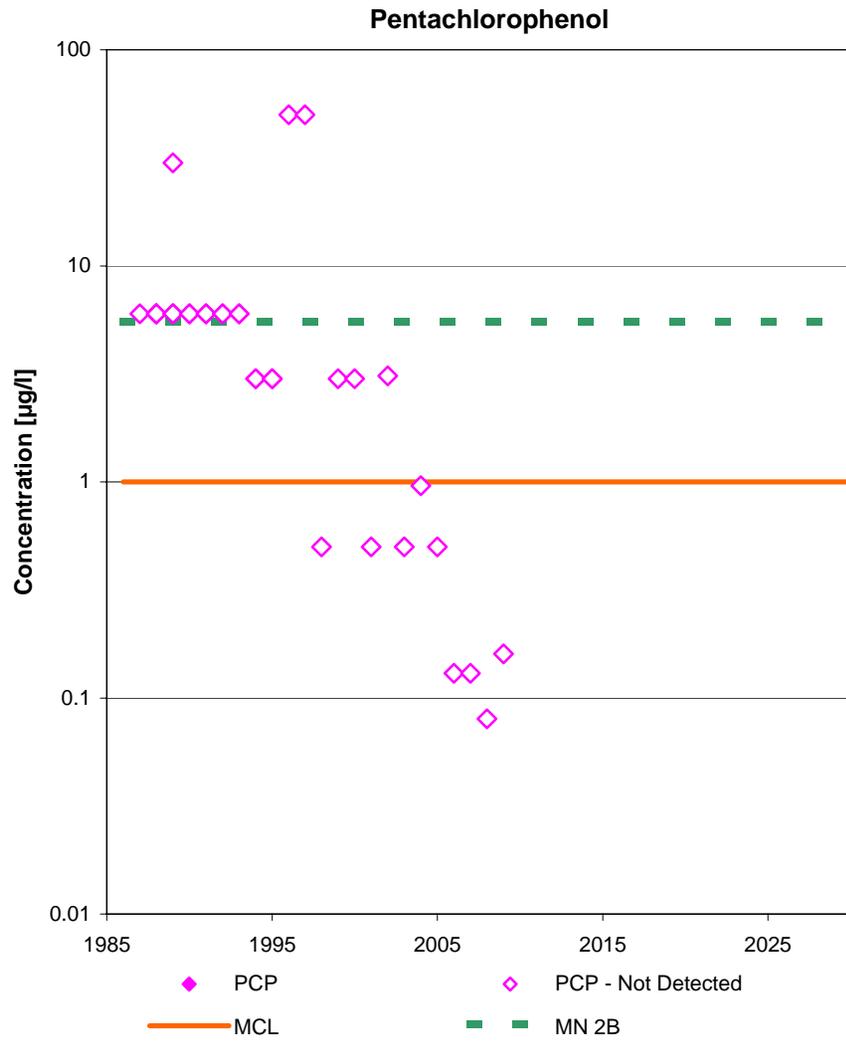
**Well 220  
St. Regis Paper Company Site**



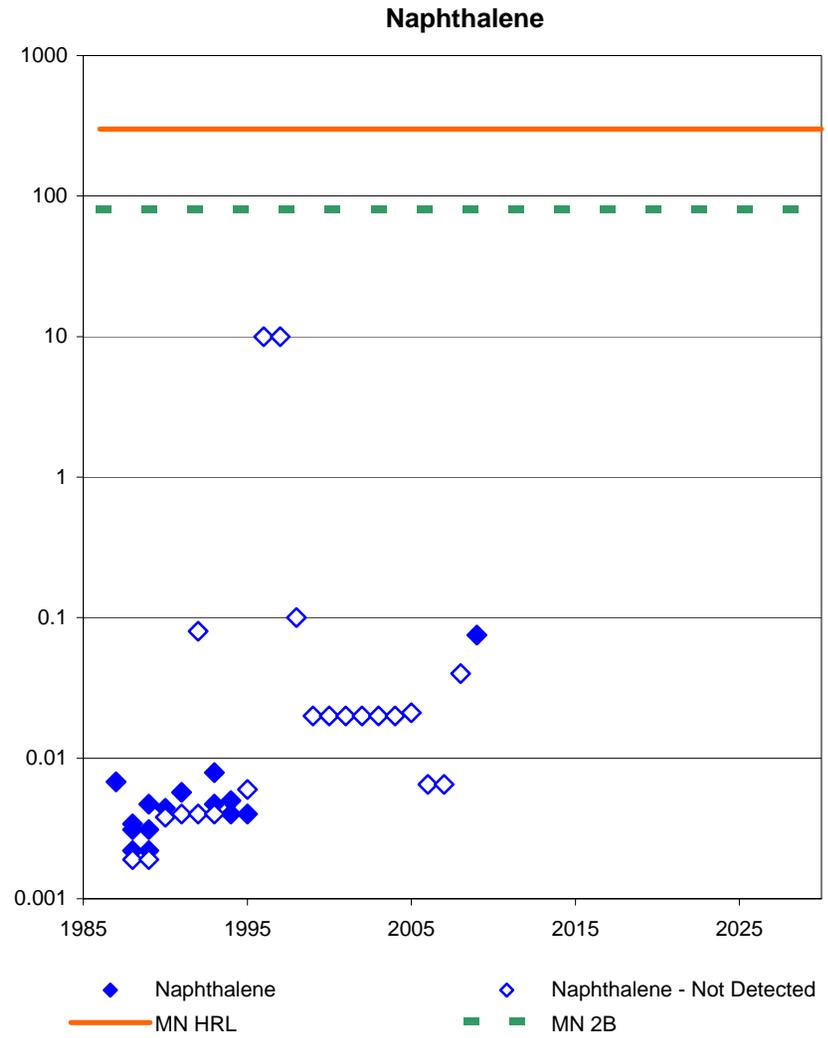
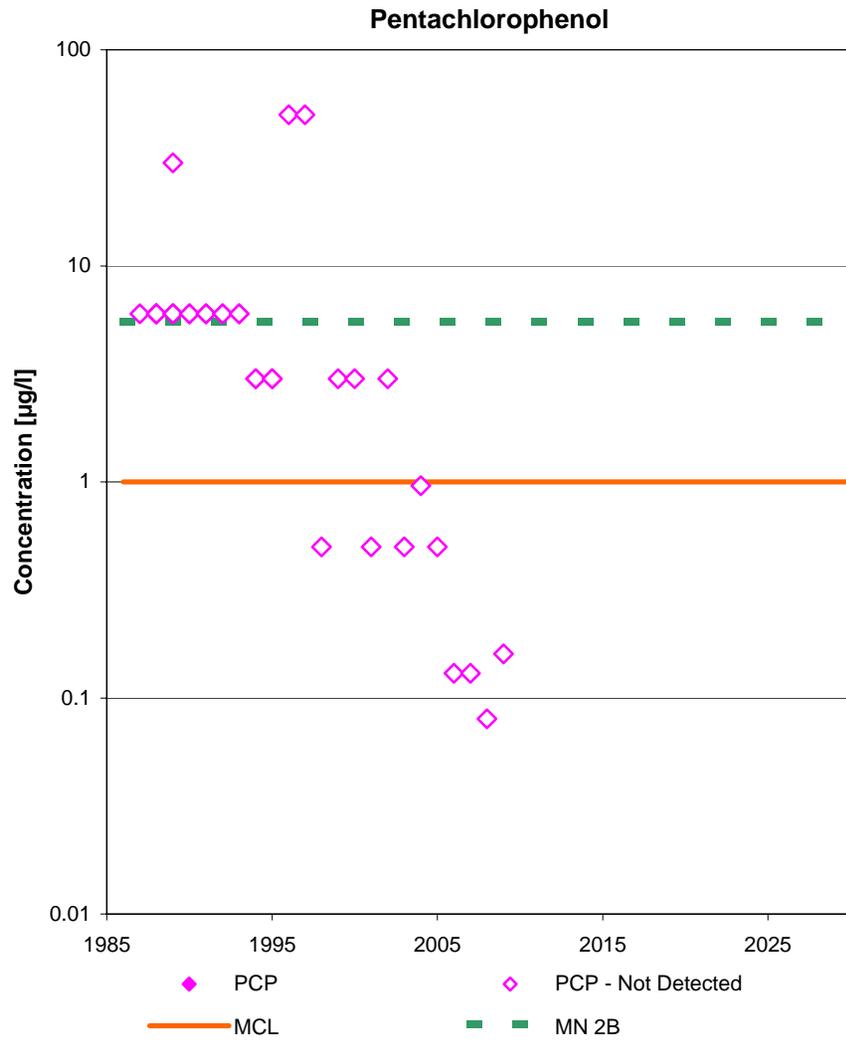
**Well 306**  
**St. Regis Paper Company Site**



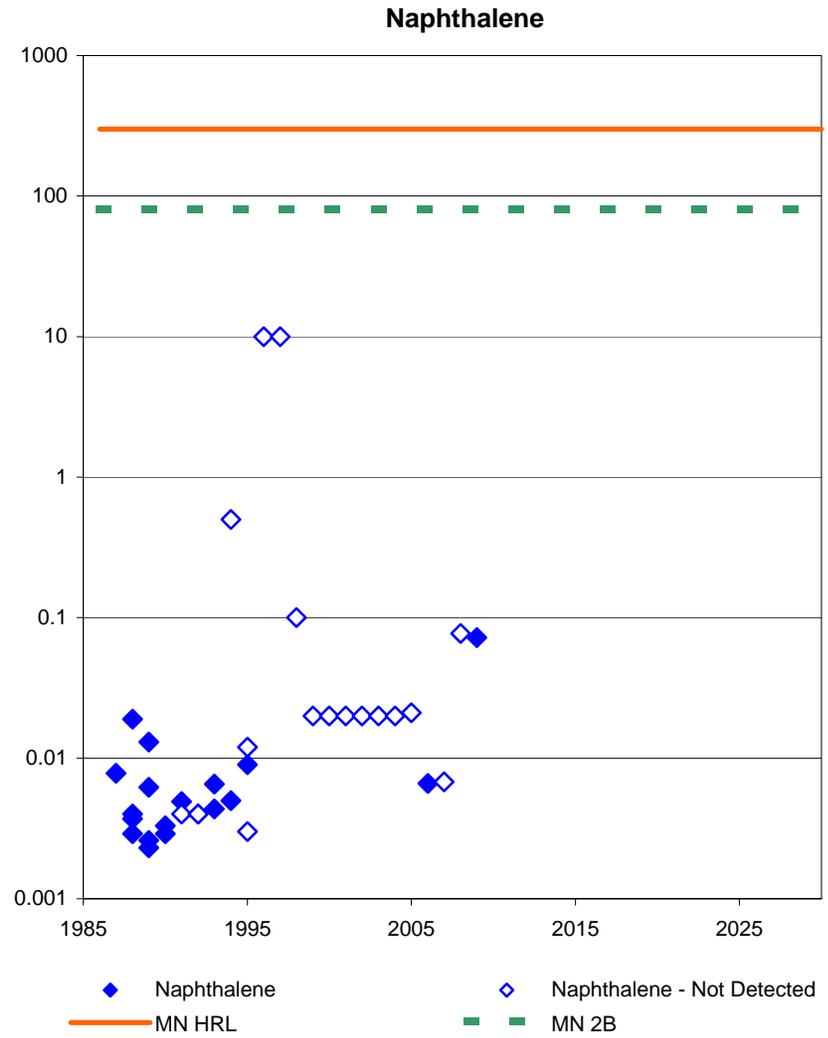
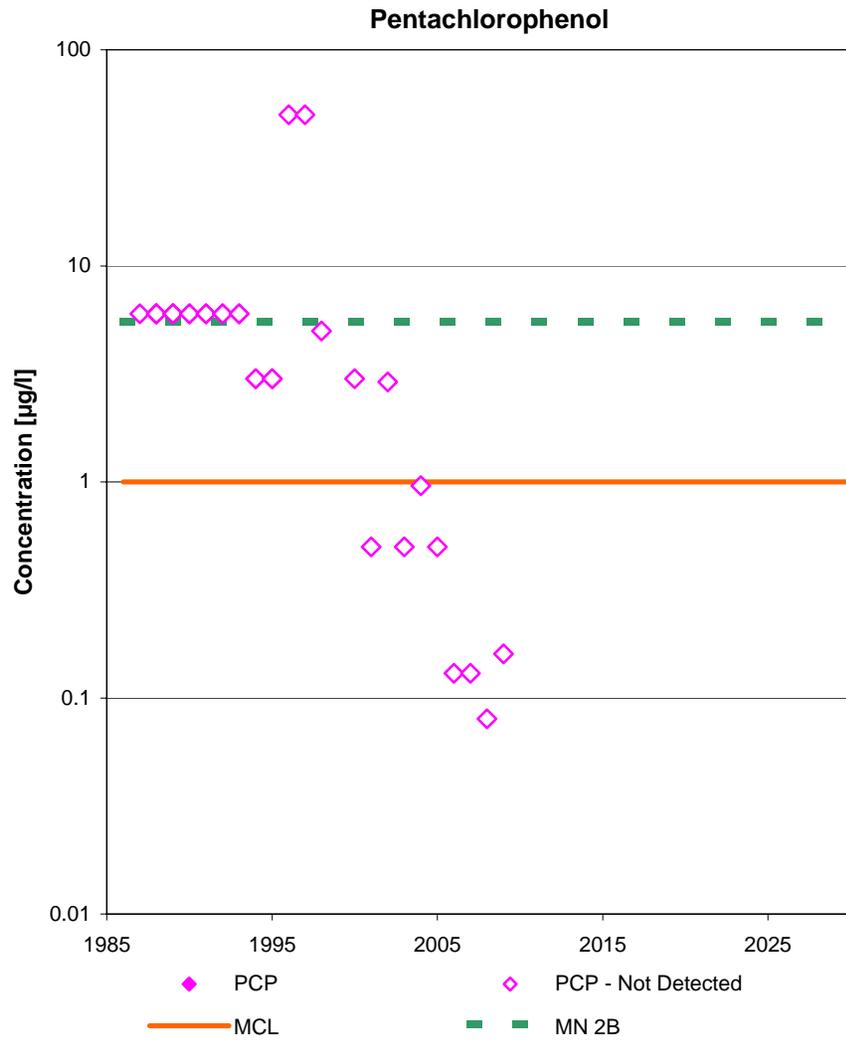
# Well 124 St. Regis Paper Company Site



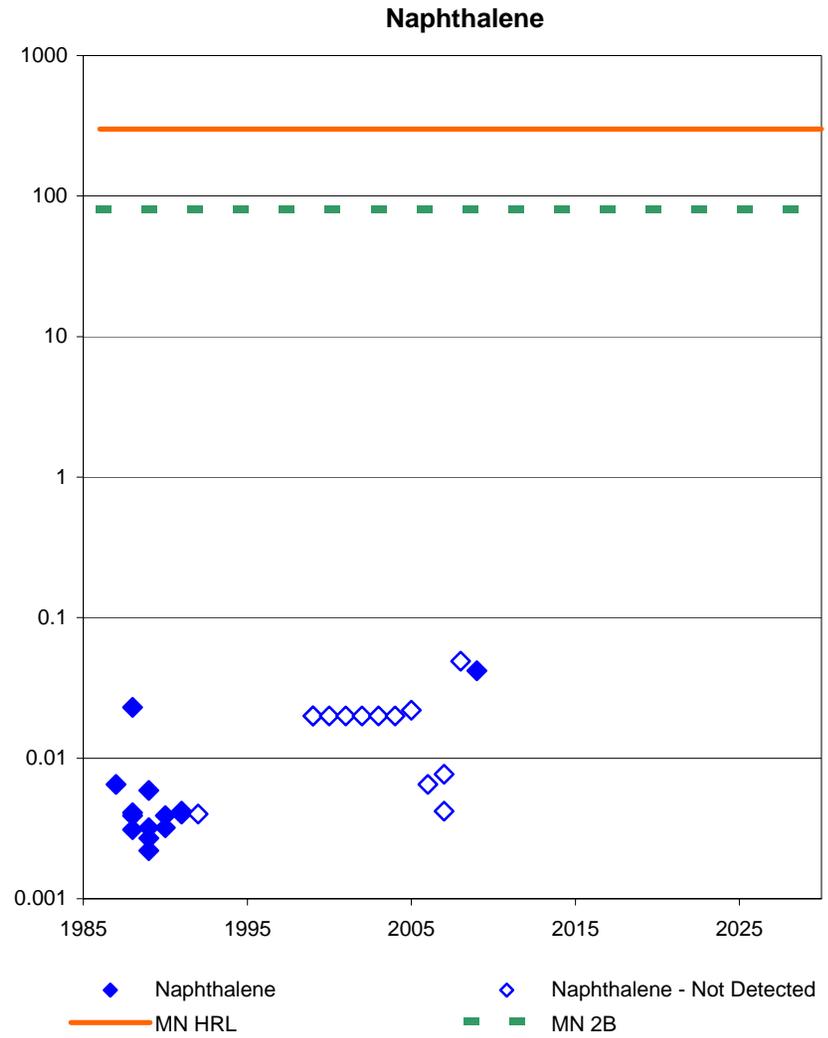
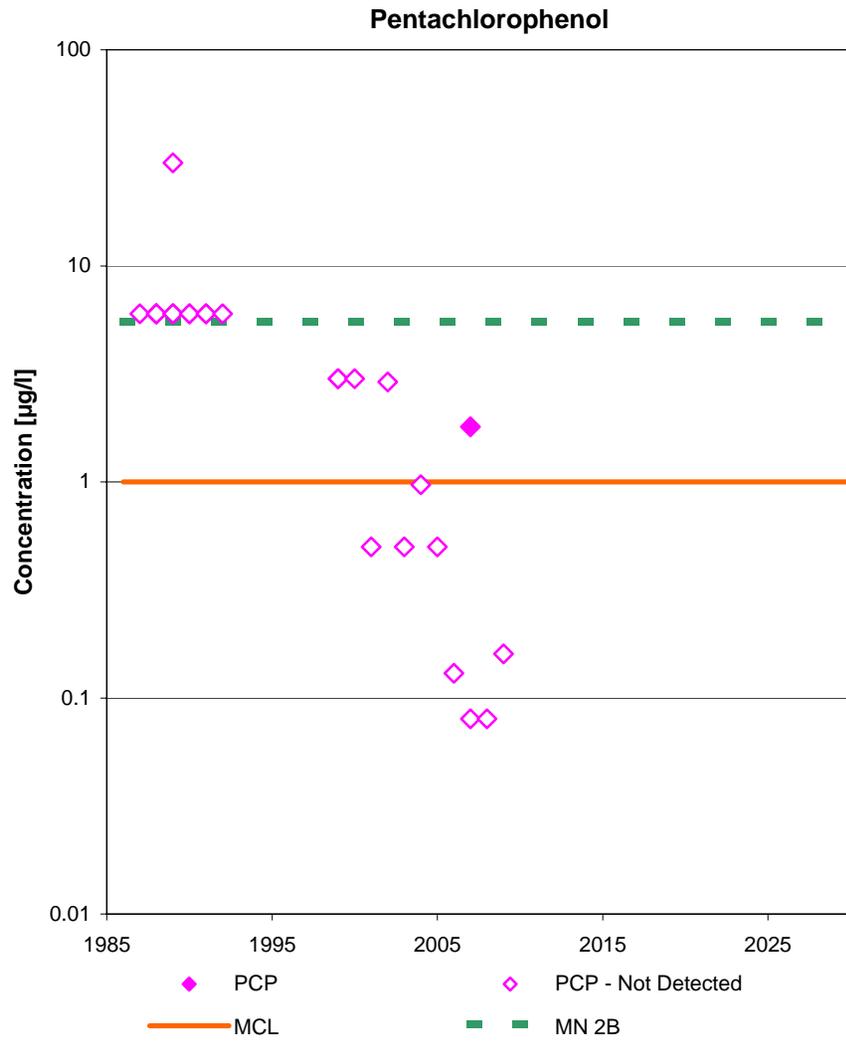
# Well 125 St. Regis Paper Company Site



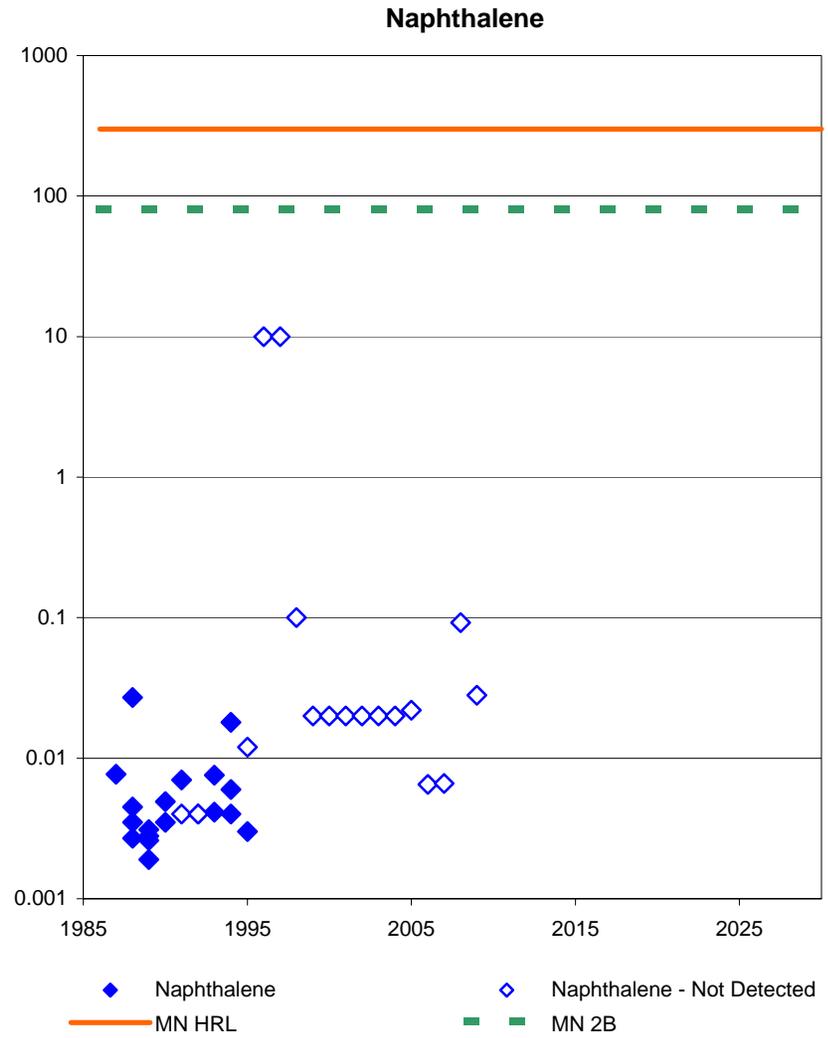
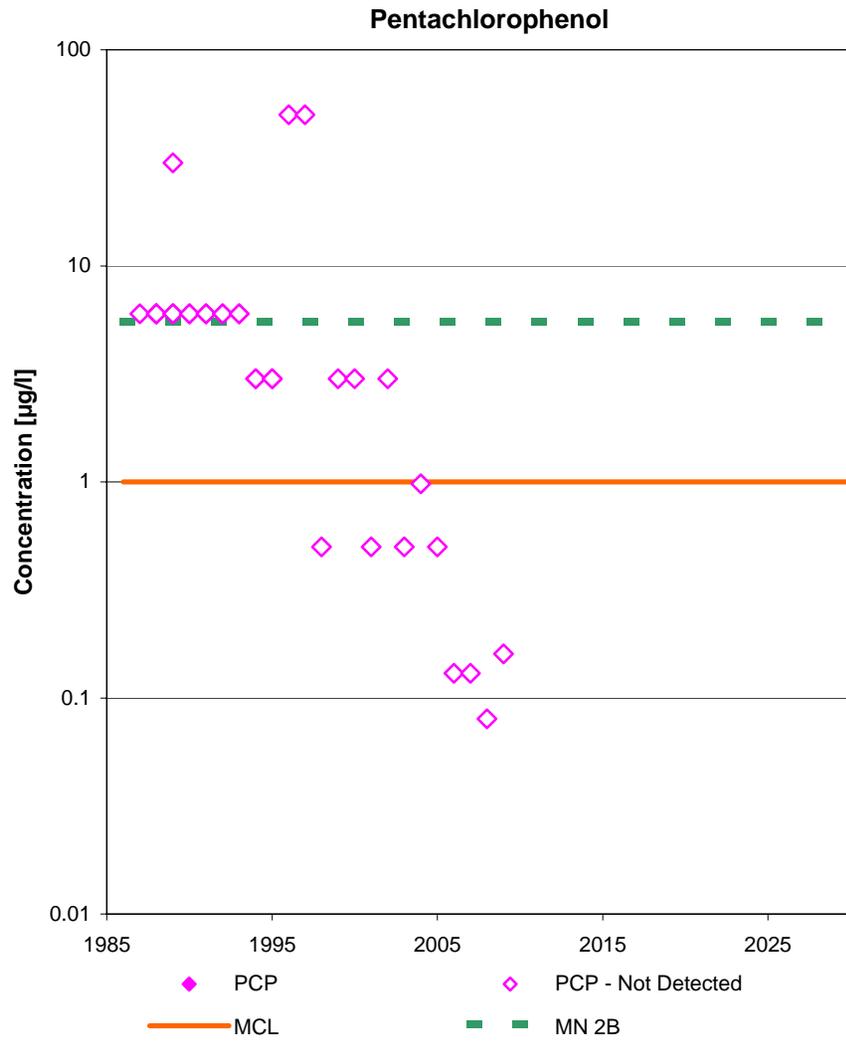
# Well 126 St. Regis Paper Company Site



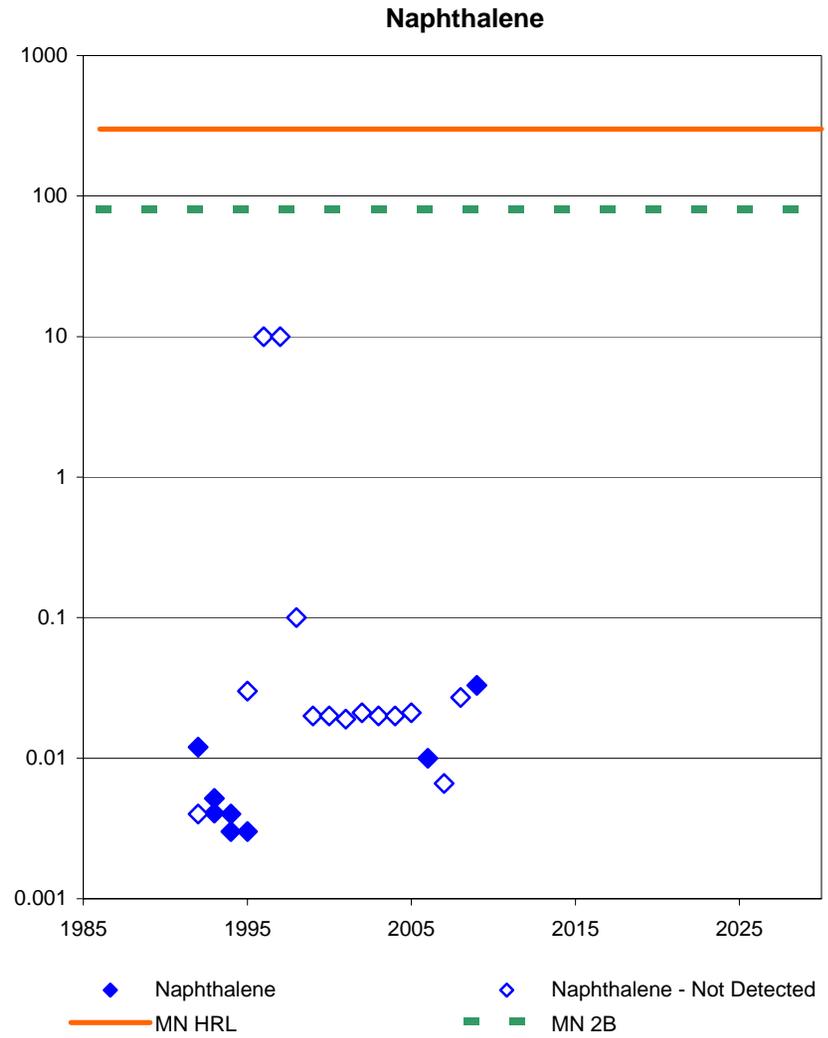
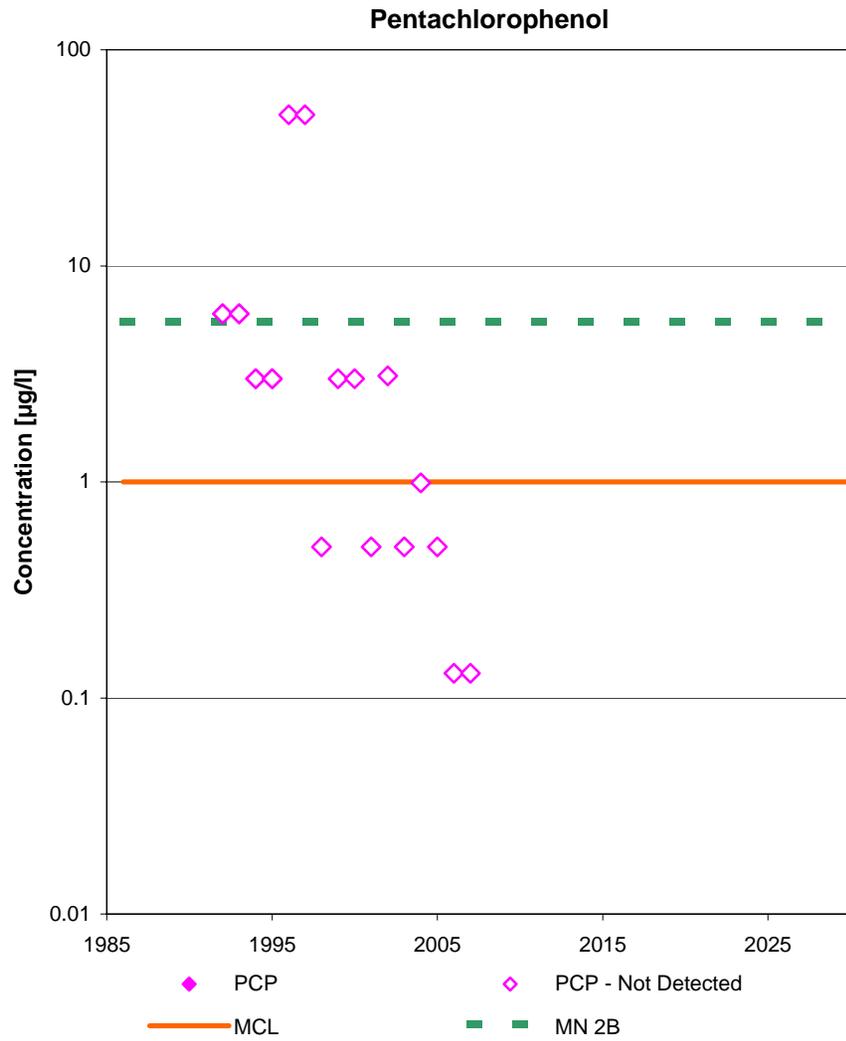
# Well 127 St. Regis Paper Company Site



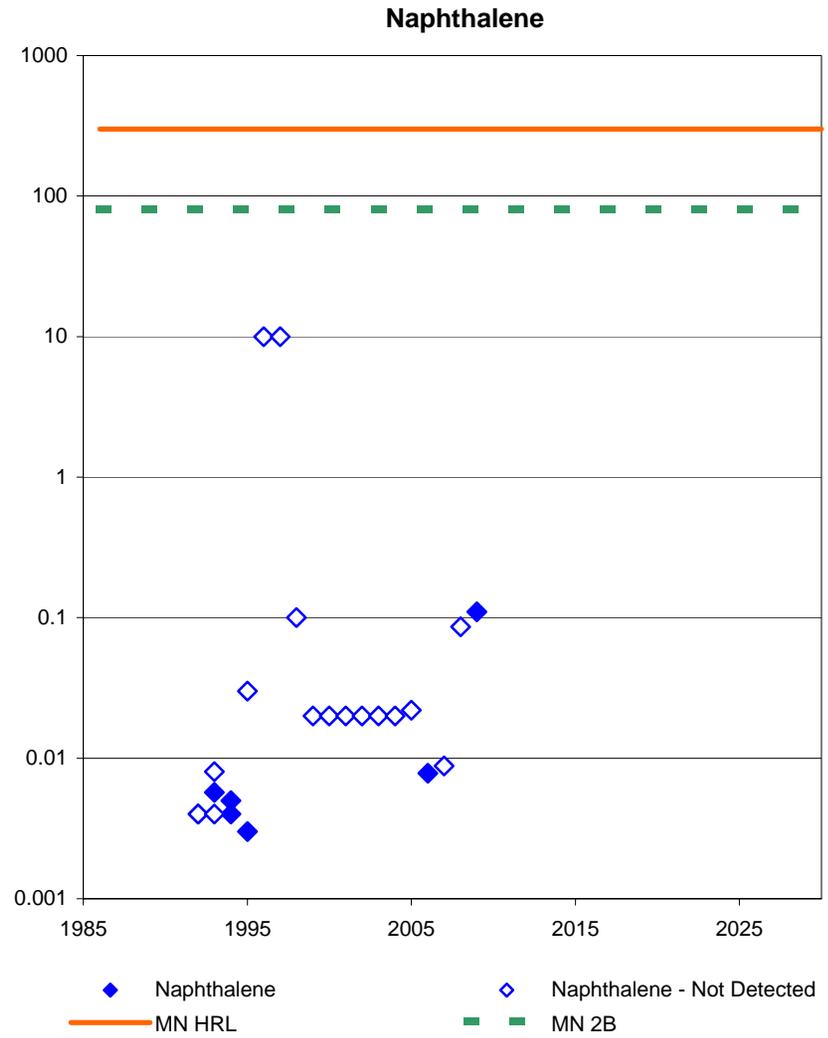
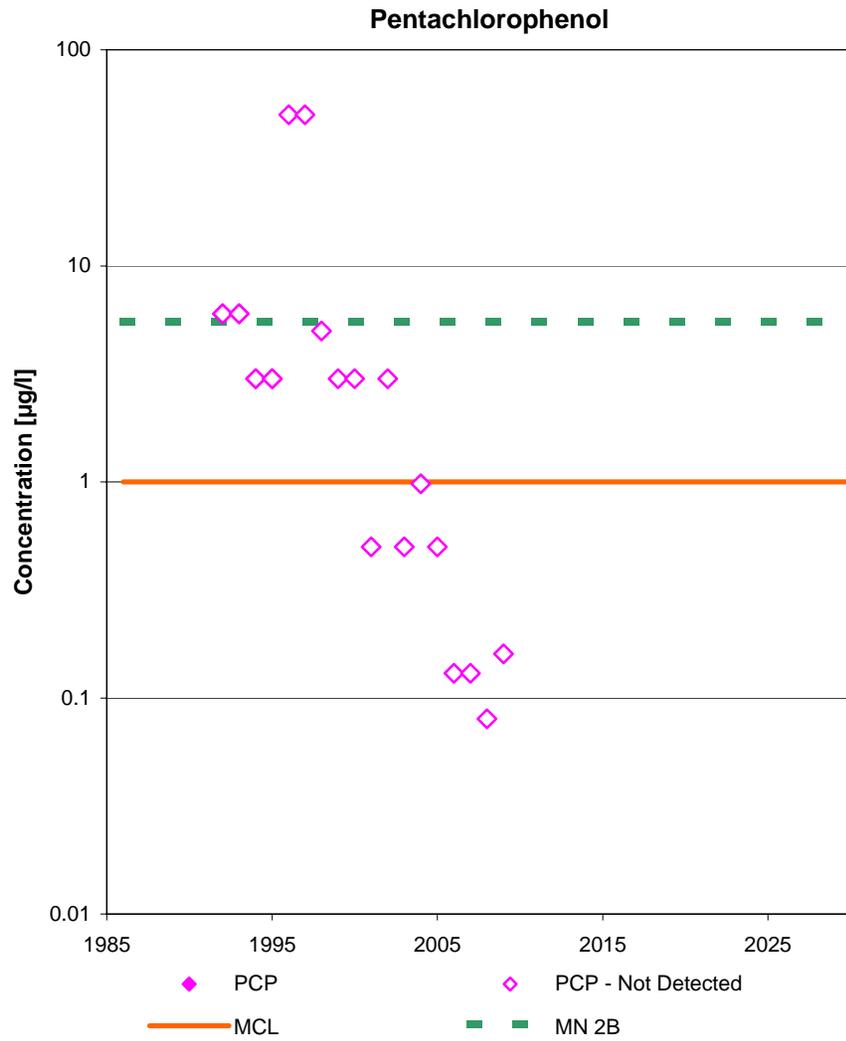
**Well 128**  
**St. Regis Paper Company Site**



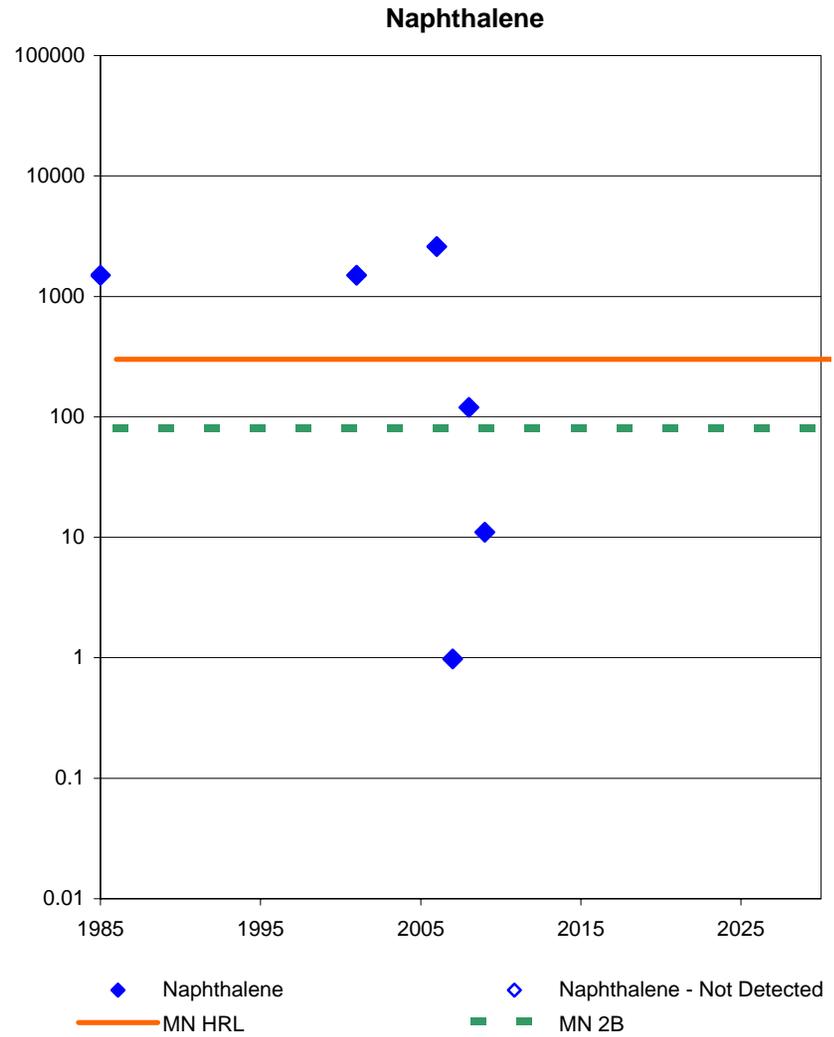
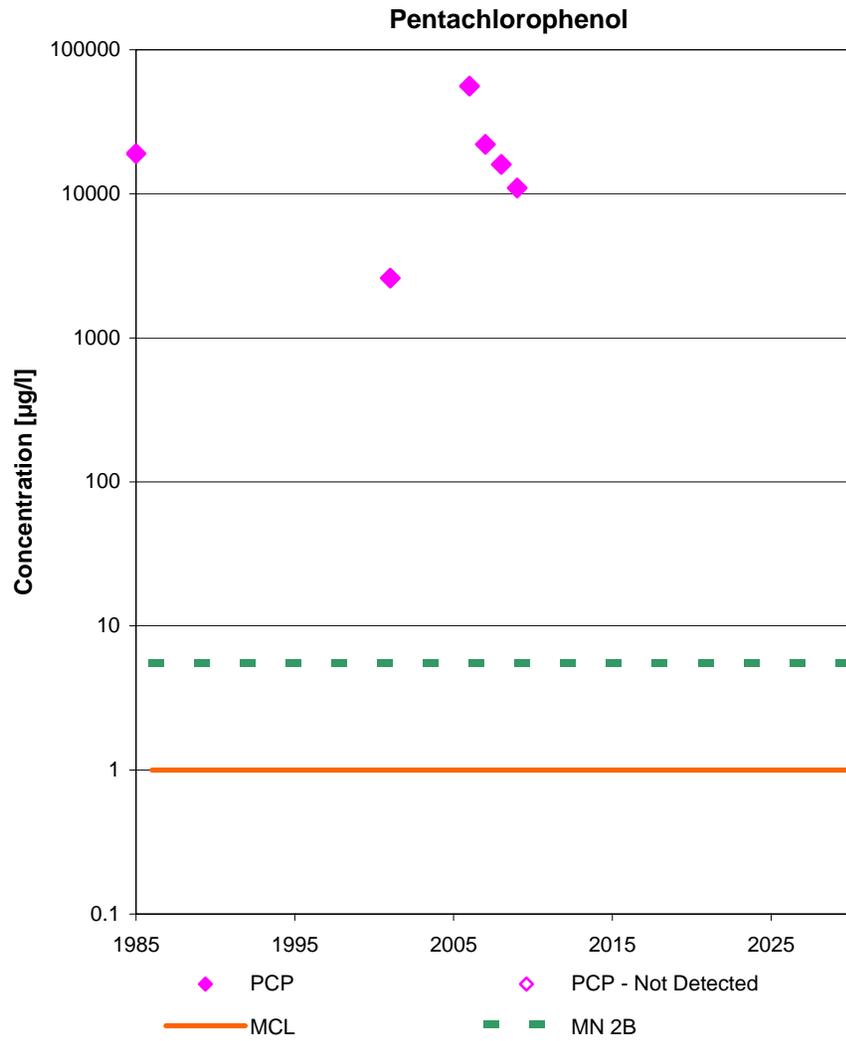
# Well 129 St. Regis Paper Company Site



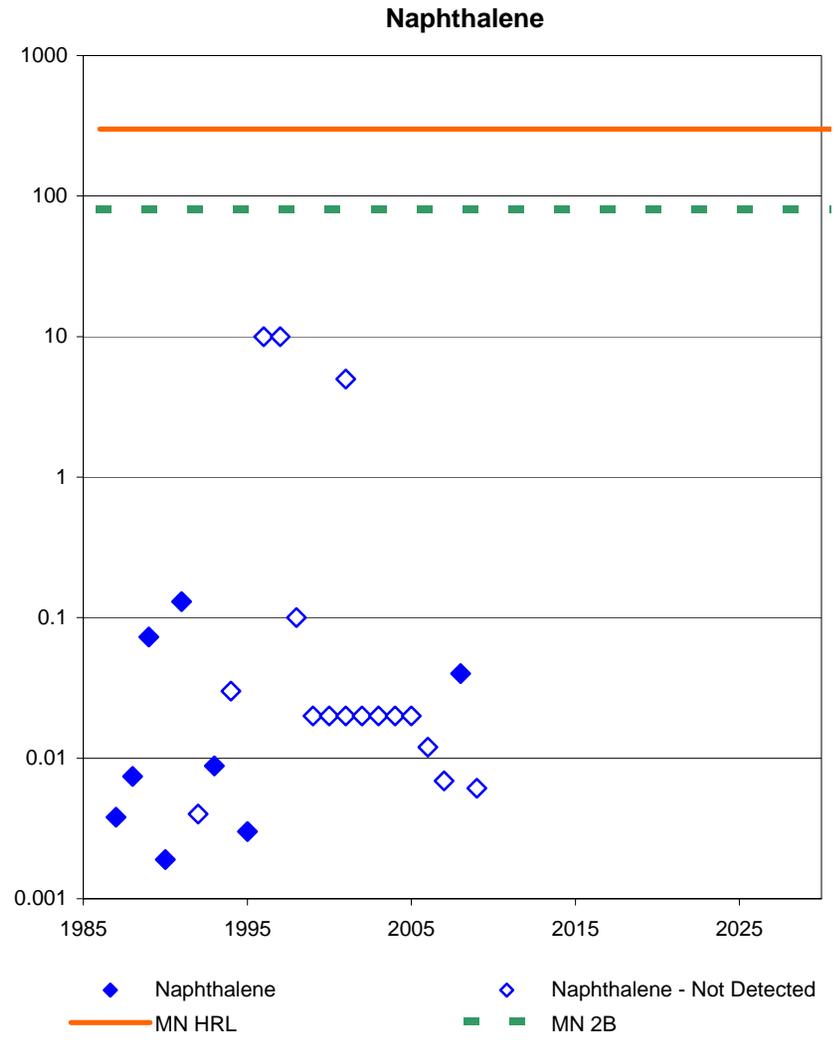
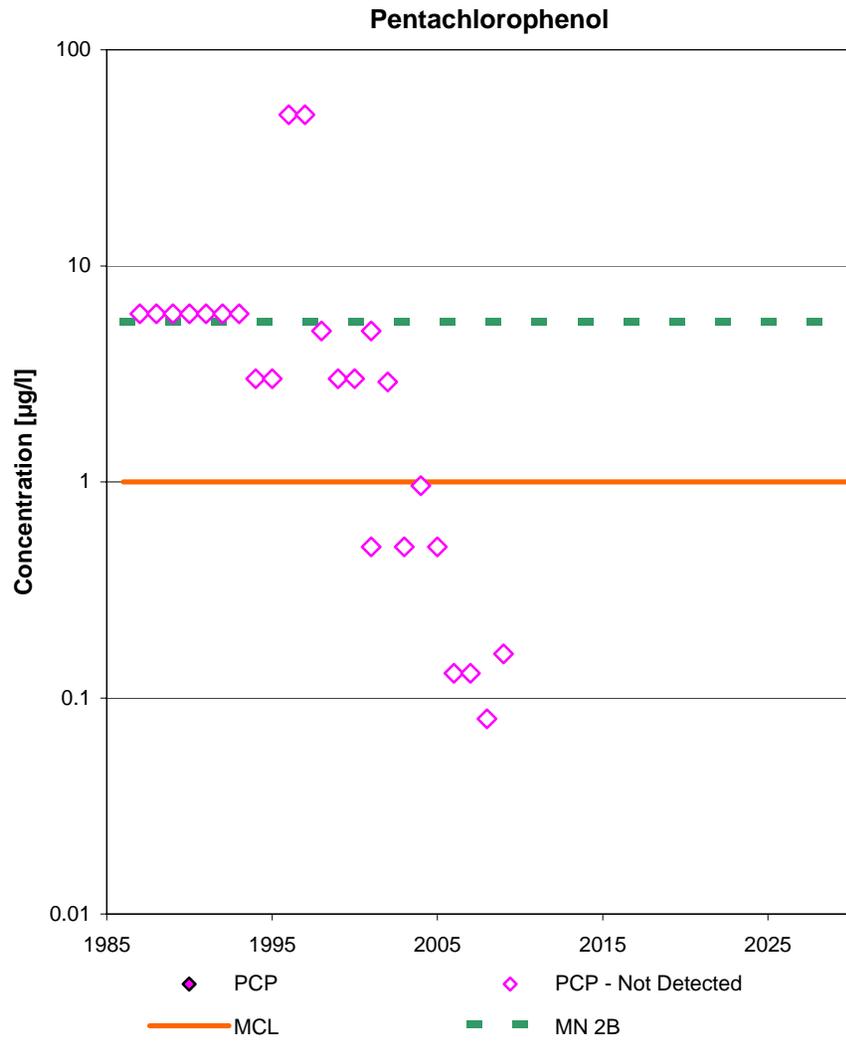
# Well 130 St. Regis Paper Company Site



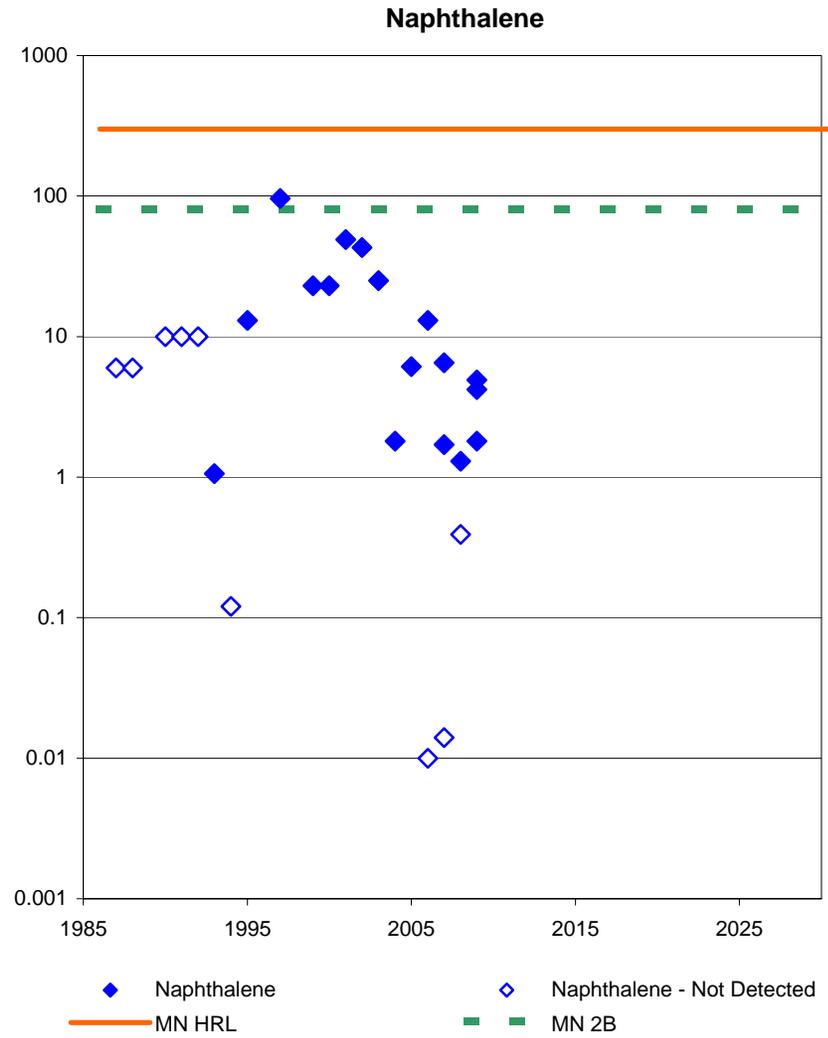
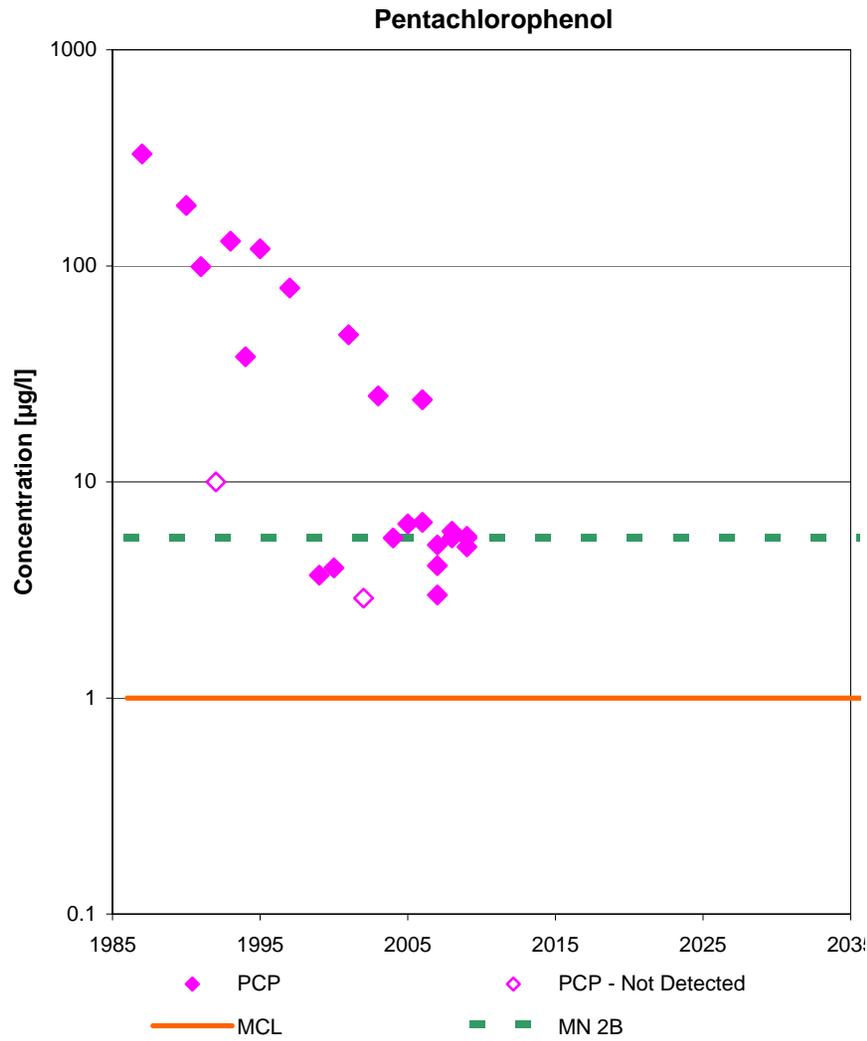
# Well 2106 St. Regis Paper Company Site



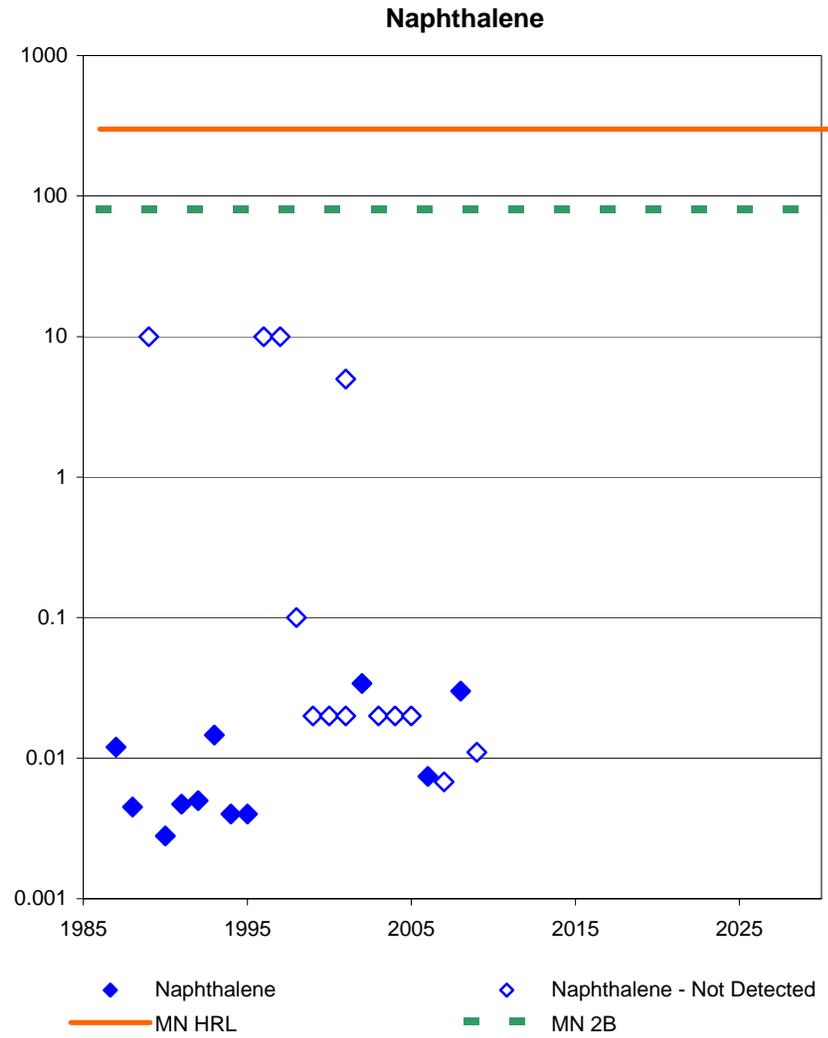
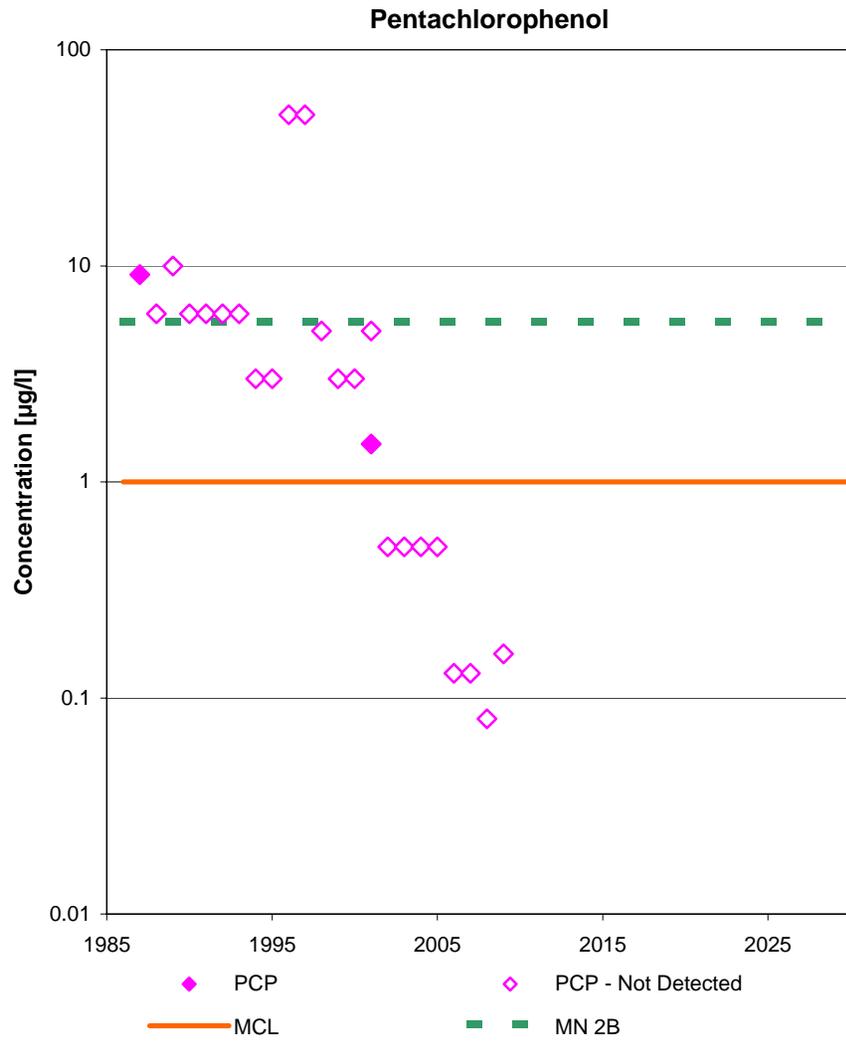
**Well 2127**  
**St. Regis Paper Company Site**



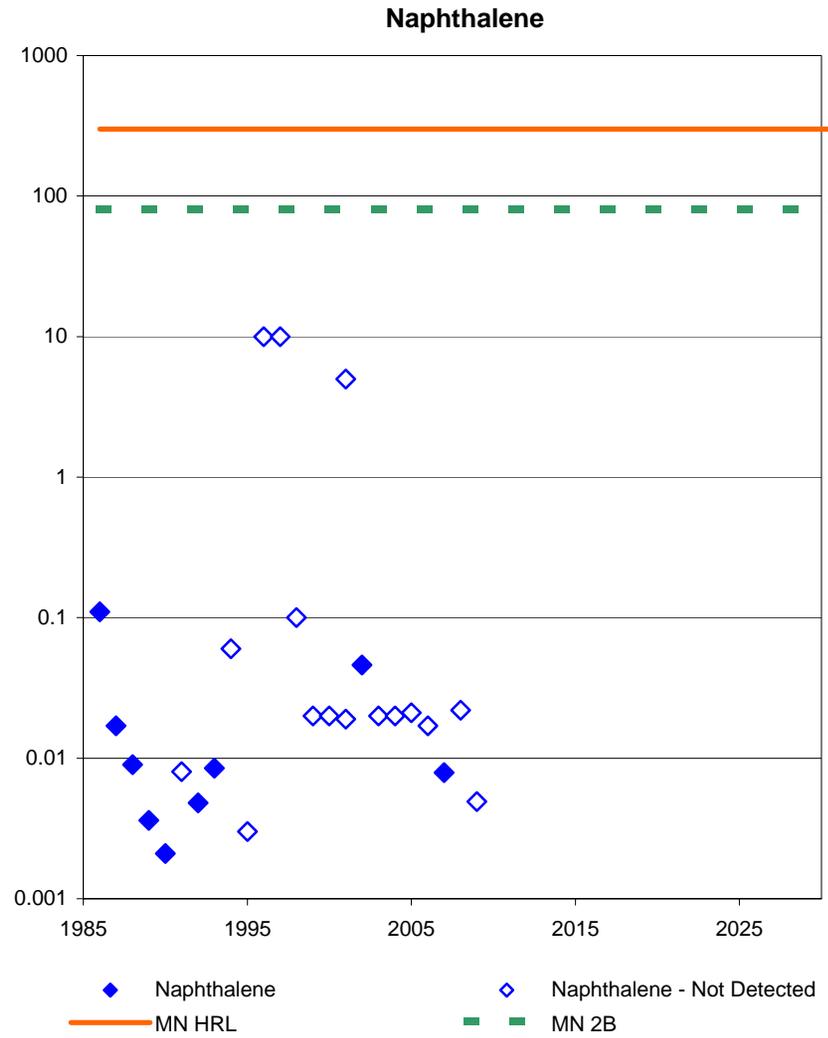
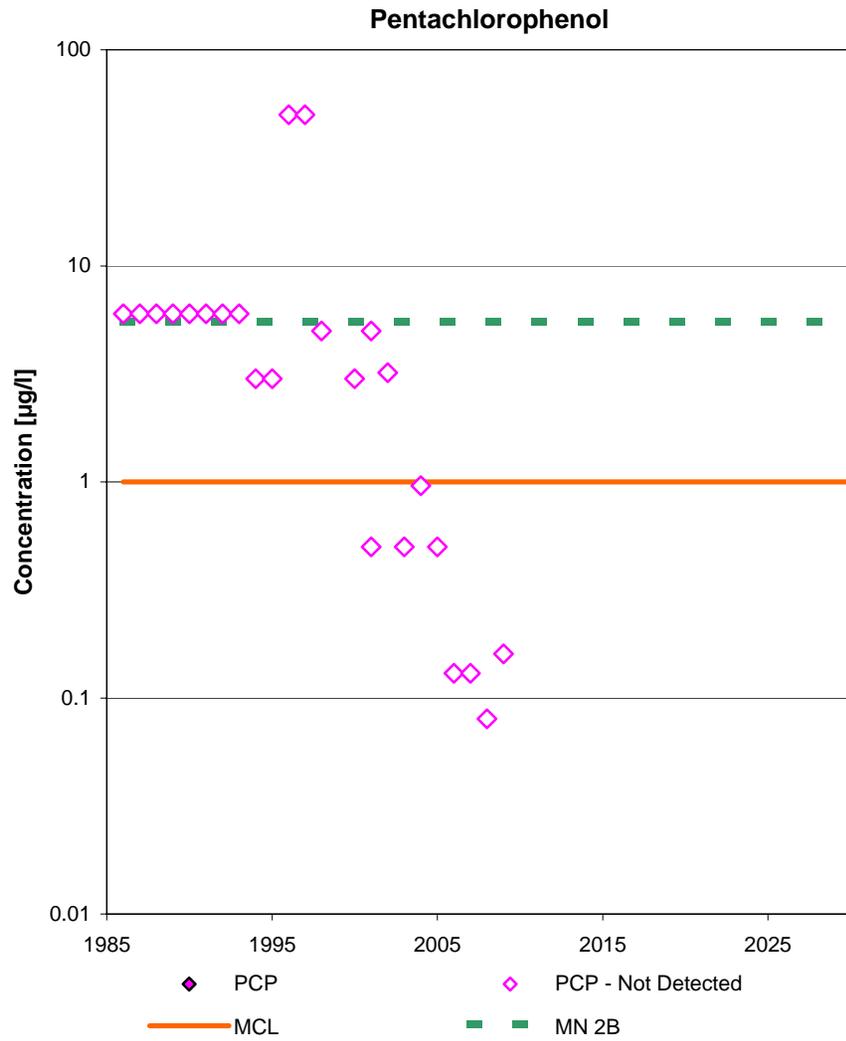
**Well 2128**  
**St. Regis Paper Company Site**



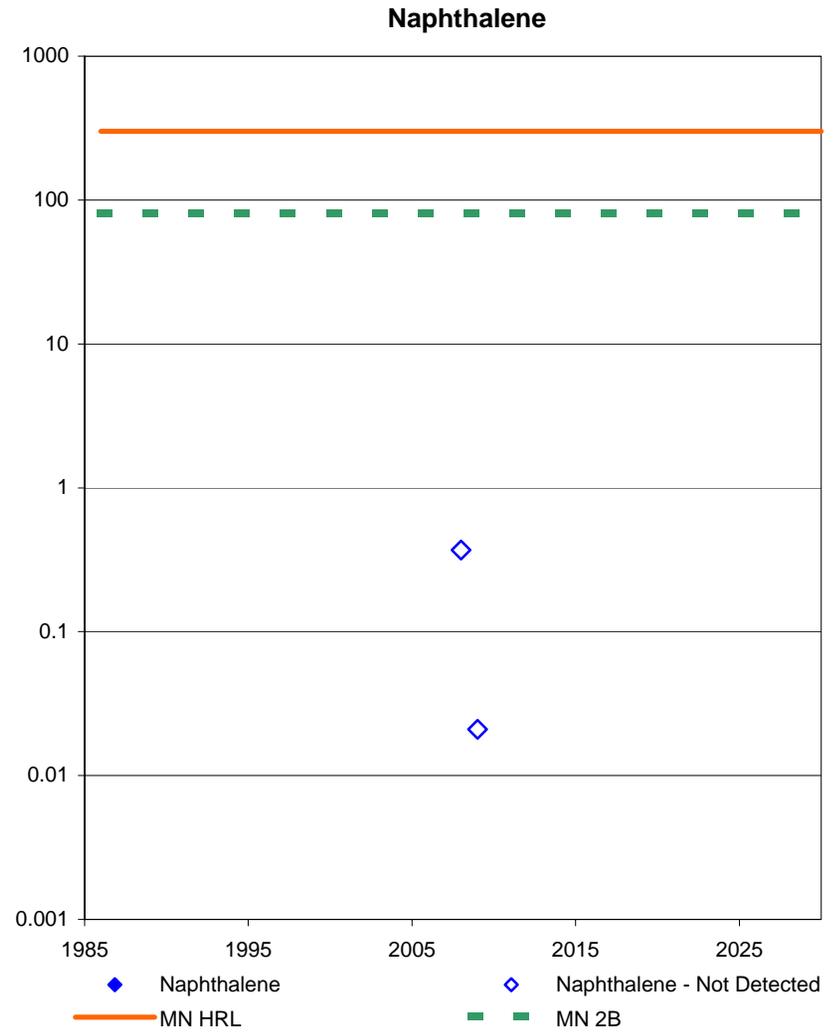
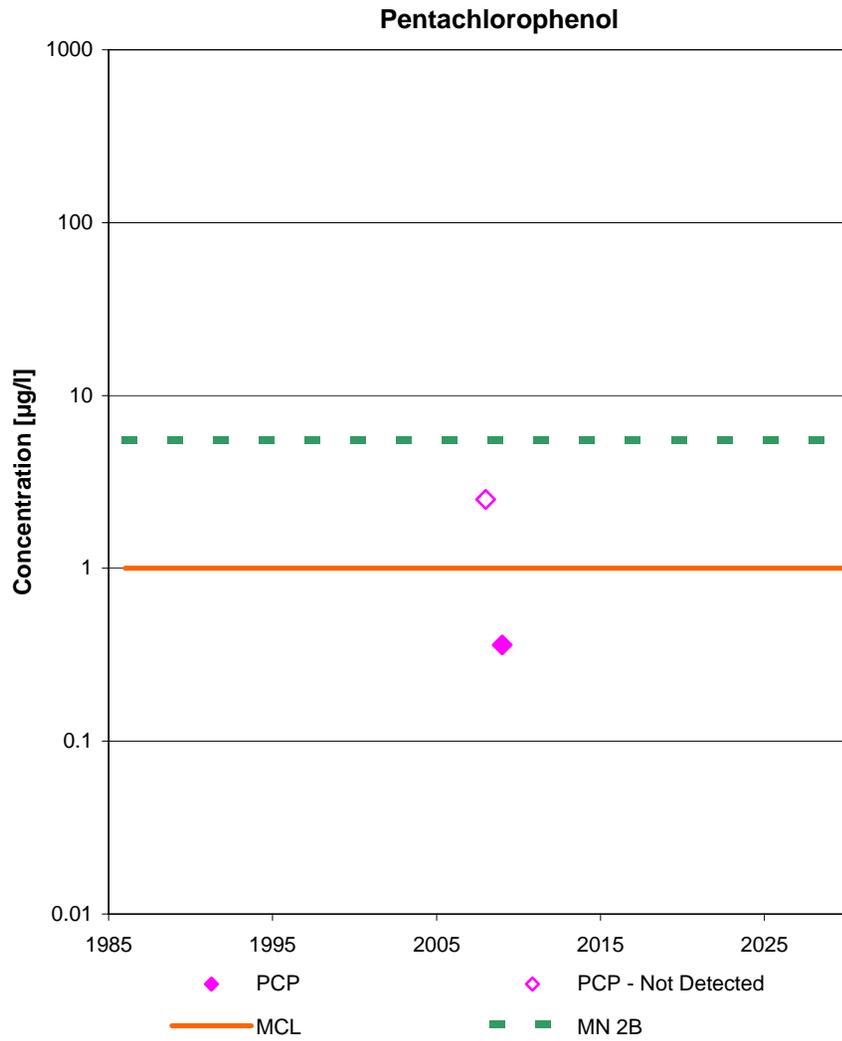
## Well 2129 St. Regis Paper Company Site



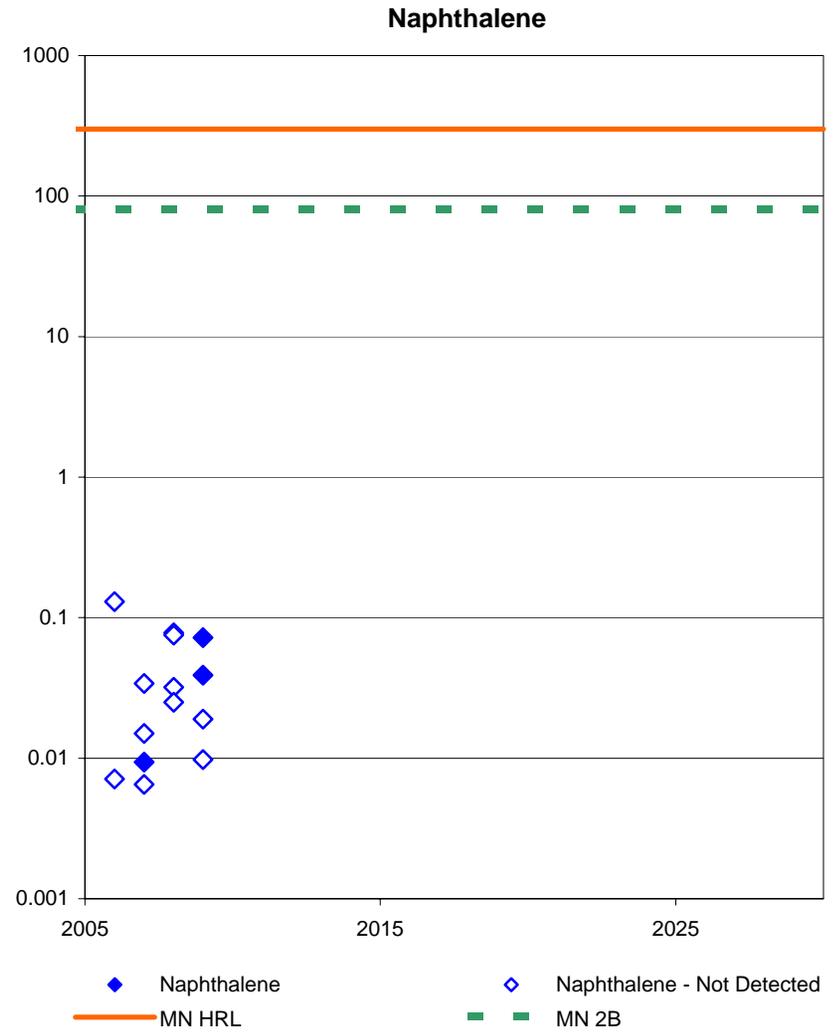
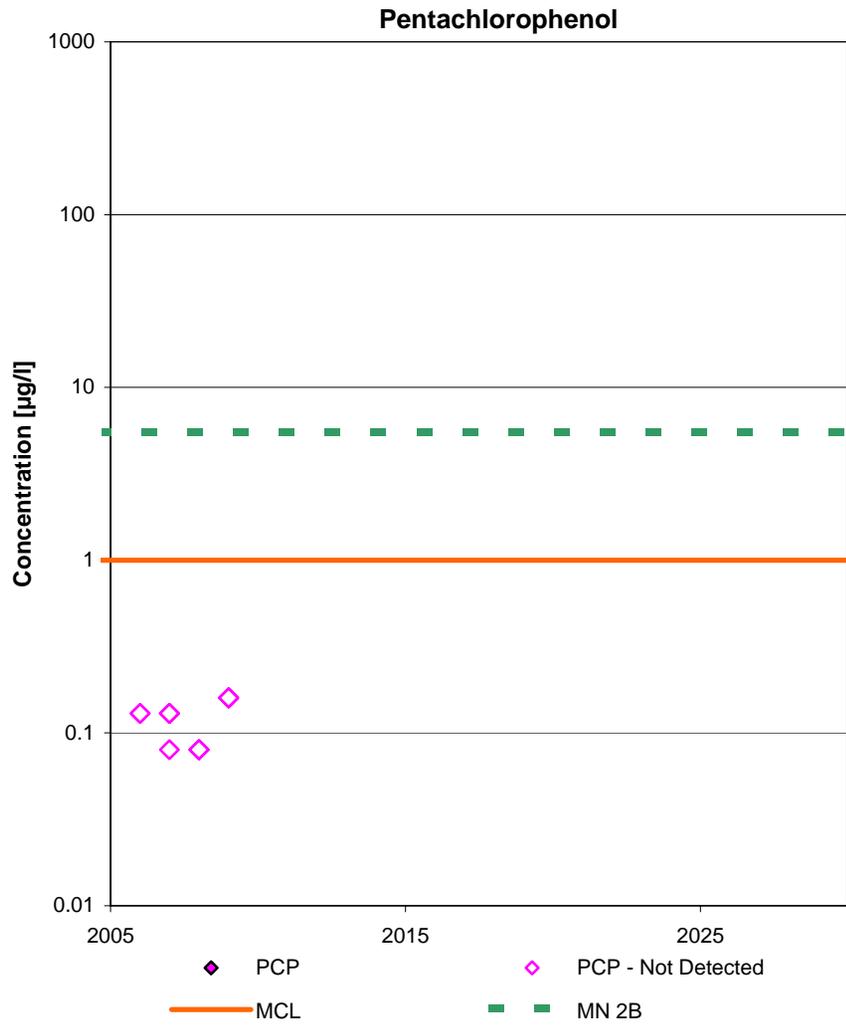
# Well 2135 St. Regis Paper Company Site



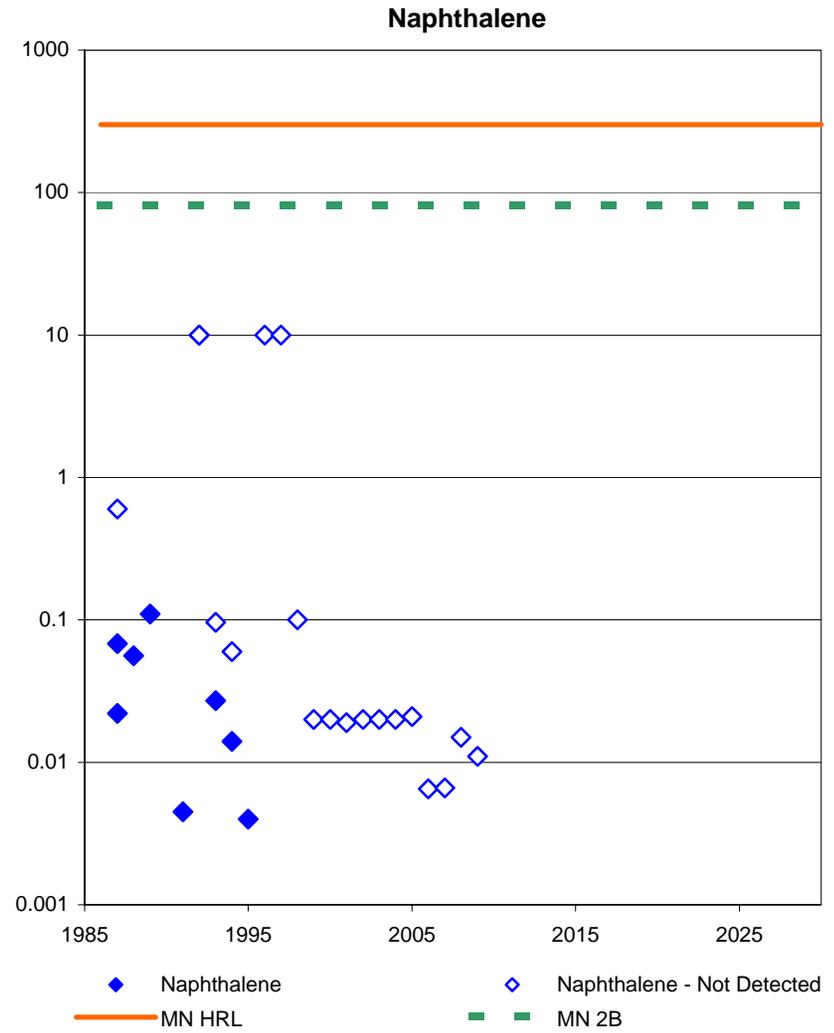
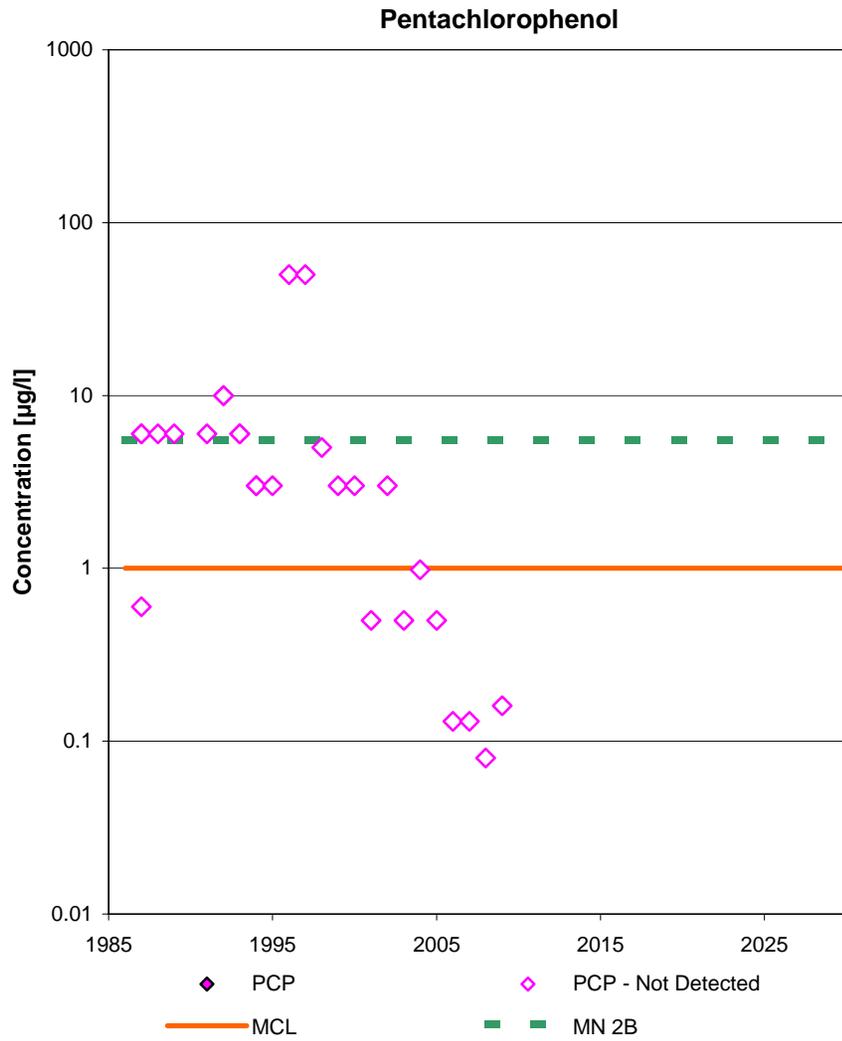
# Well 2228 St. Regis Paper Company Site



# Well 2233 St. Regis Paper Company Site

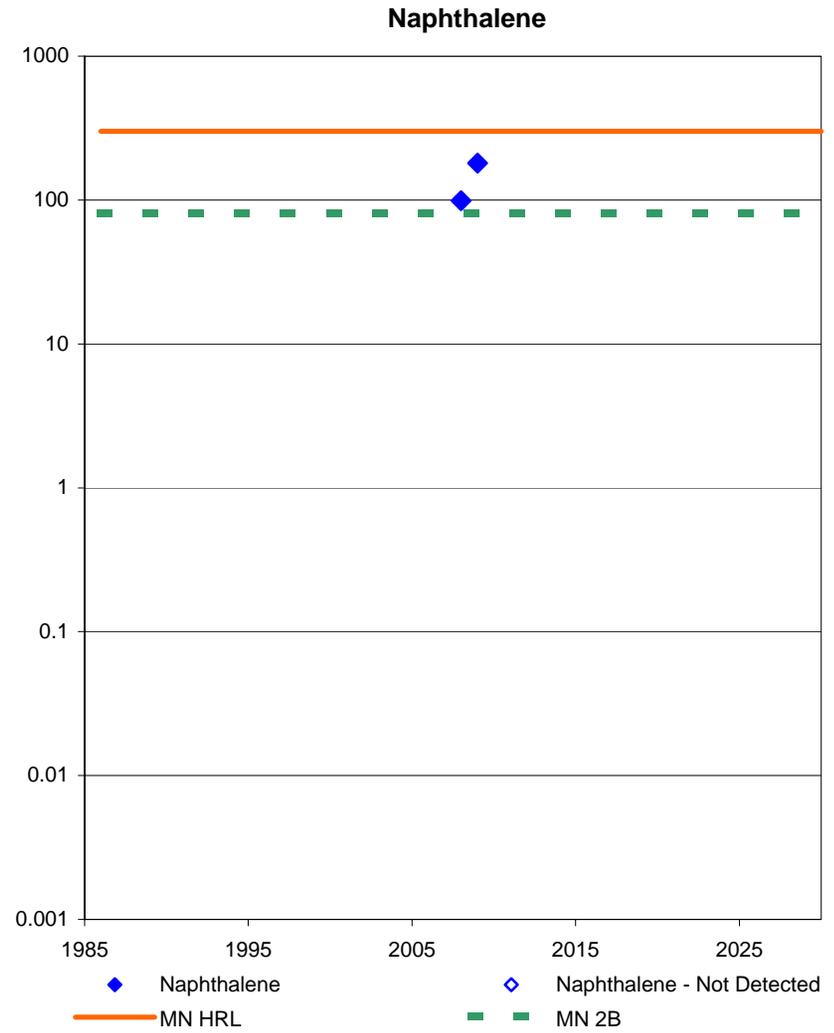
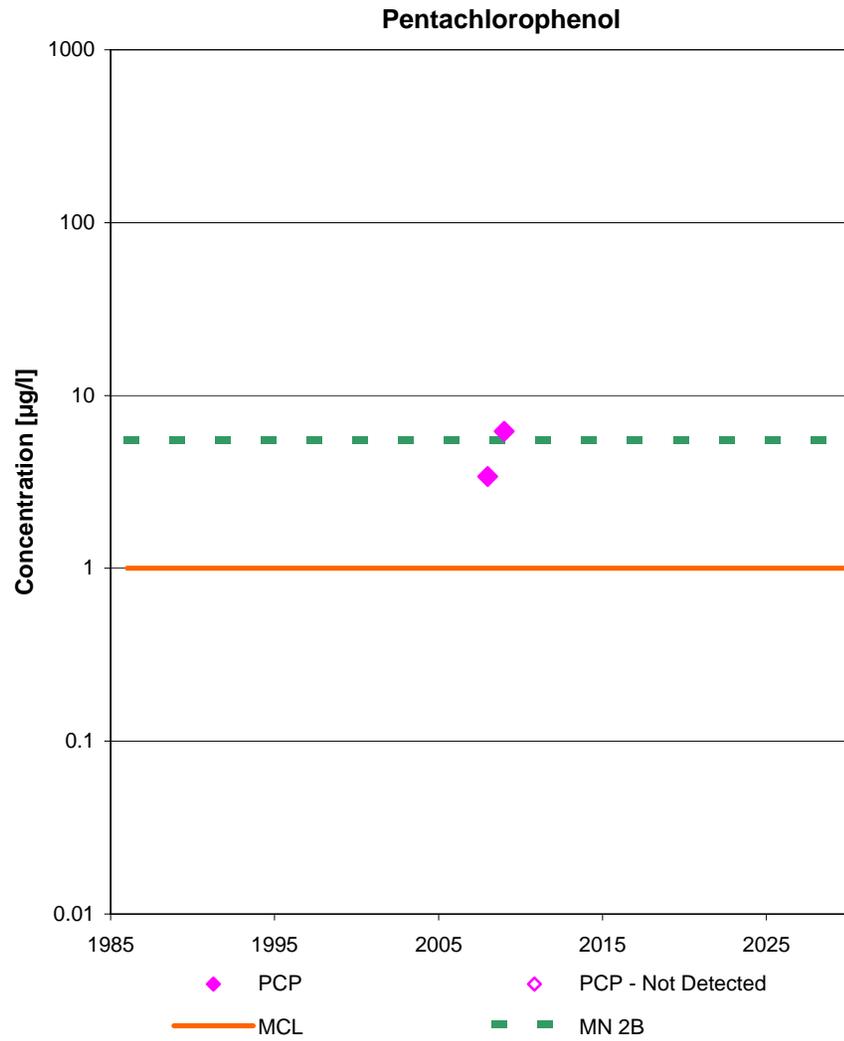


# Well 2234 St. Regis Paper Company Site

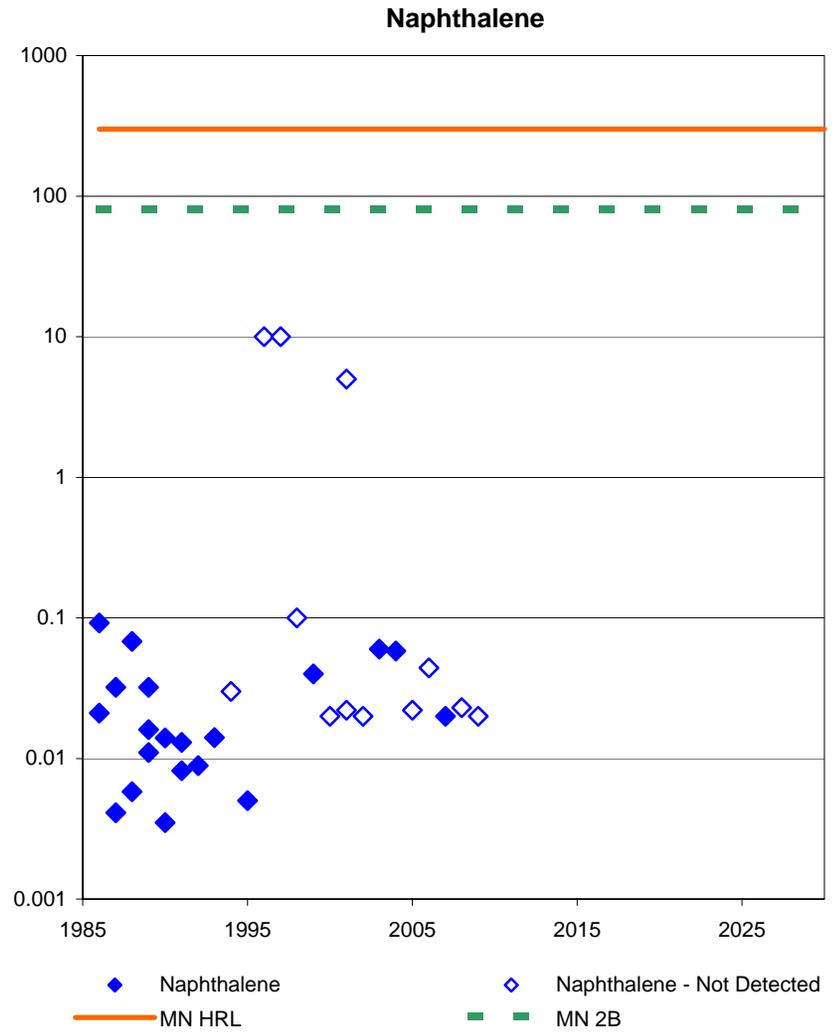
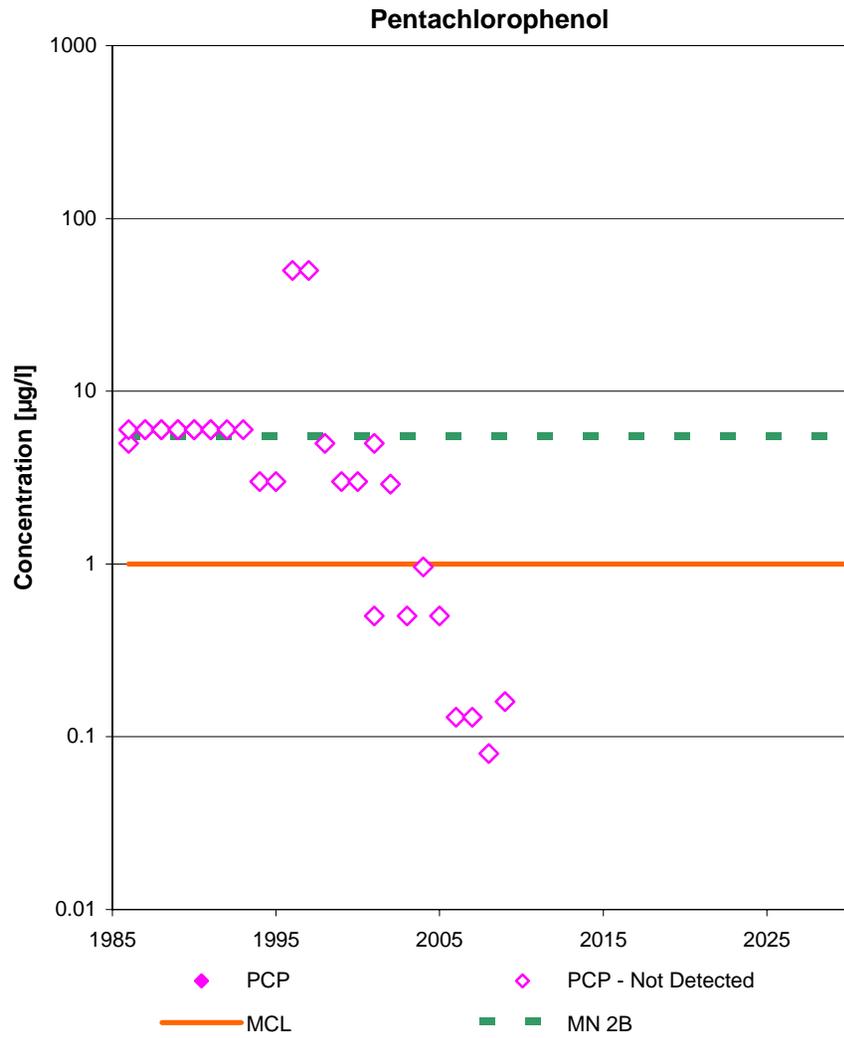




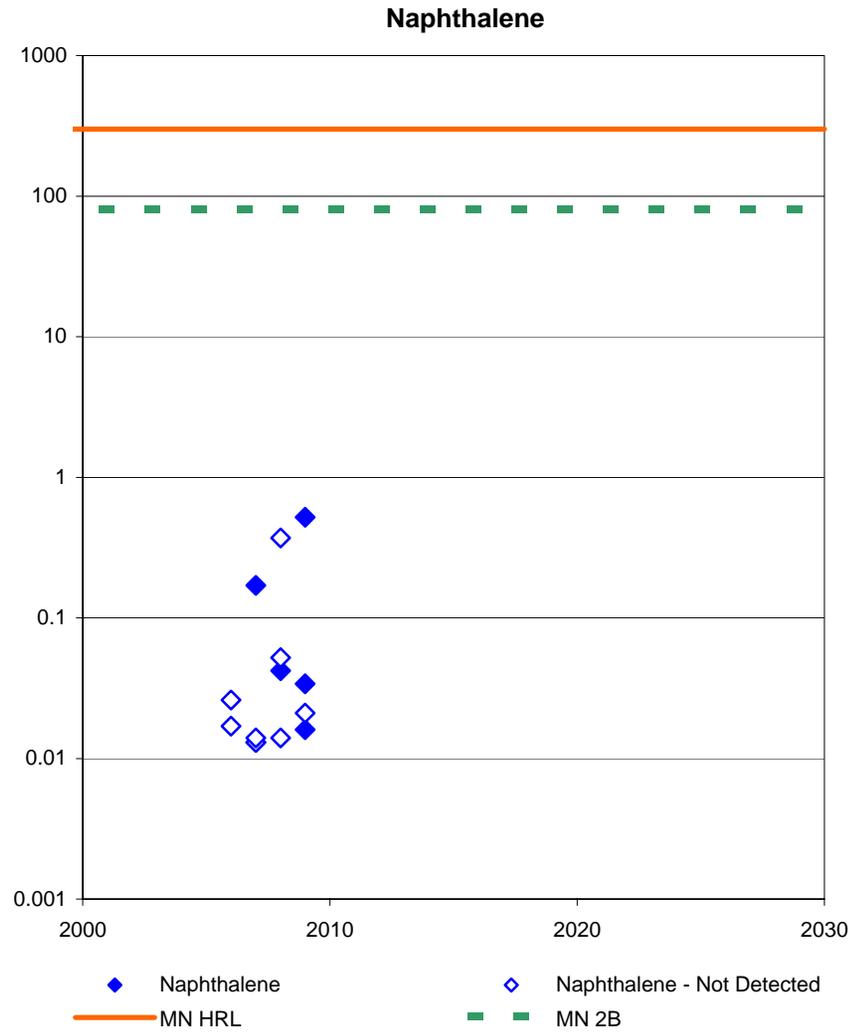
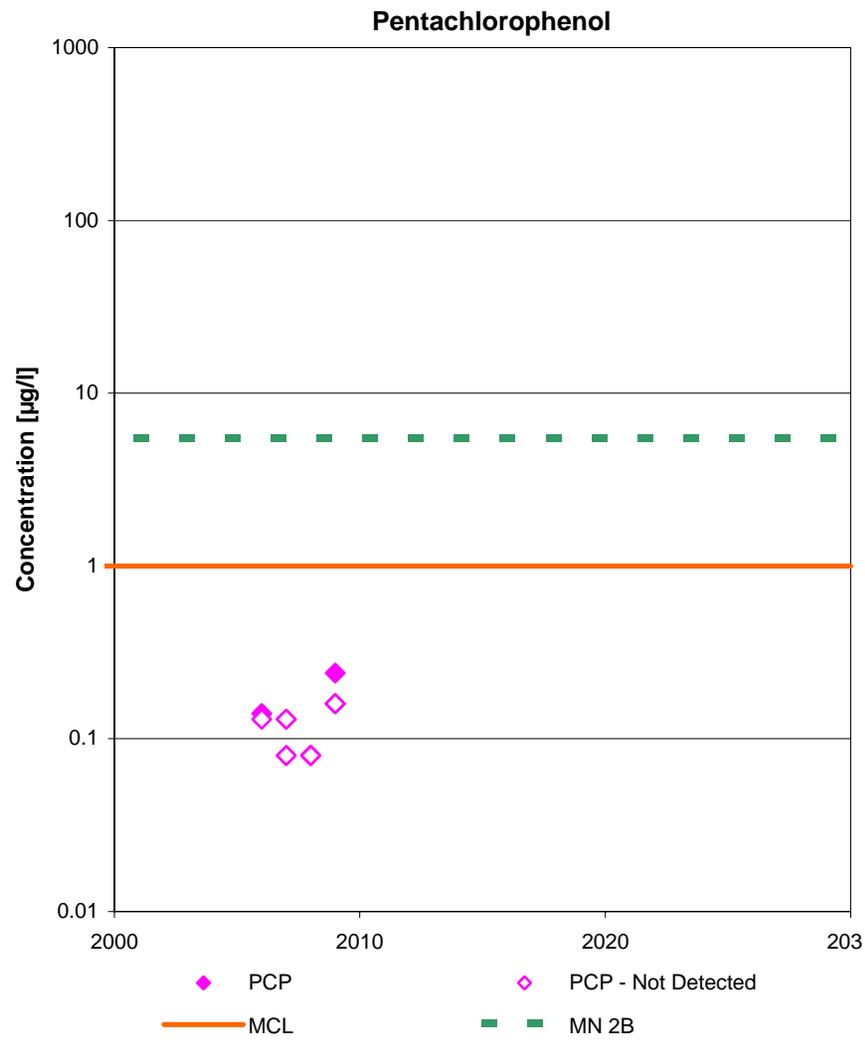
**Well 2238**  
**St. Regis Paper Company Site**



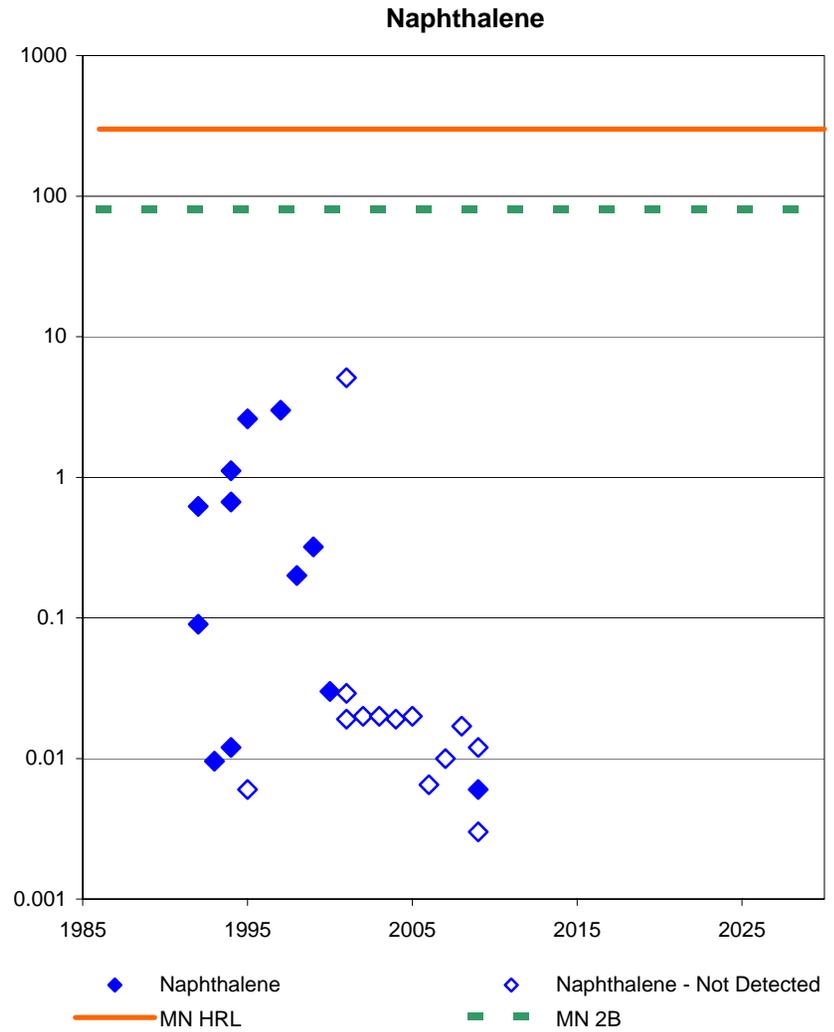
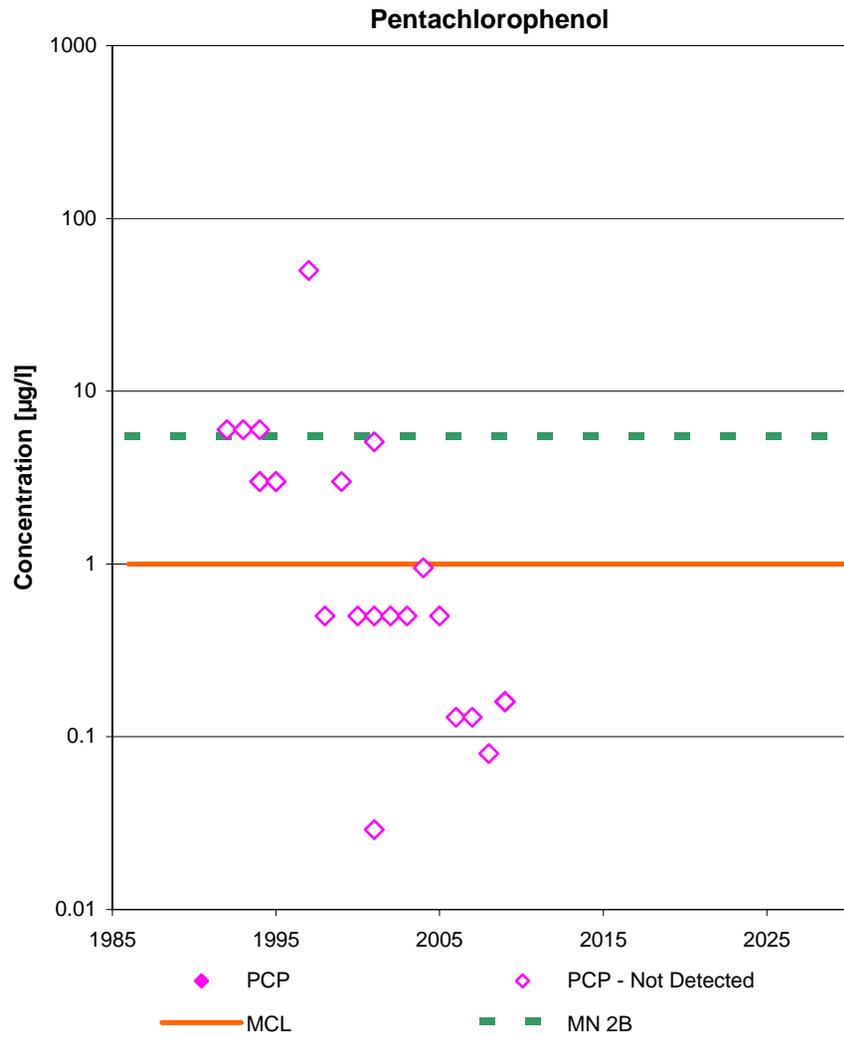
# Well 2335 St. Regis Paper Company Site



**Well 2336**  
**St. Regis Paper Company Site**



# Well Fish 4 St. Regis Paper Company Site



**Appendix D - Data Summary Table**  
**Naphthalene and Pentachlorophenol - Trend Analysis**  
**St. Regis Paper Company Site**

StationID	Date	Naphthalene			StationID	Date	Pentachlorophenol		
		Conc	Qualifier	Units			Conc	Qualifier	Units
W104	12/19/86	1.7		ug/L	W104	12/19/86	670		ug/L
W104	06/23/87	14		ug/L	W104	06/23/87	1000		ug/L
W104	06/29/88	28		ug/L	W104	06/29/88	990		ug/L
W104	06/28/89	10 U		ug/L	W104	06/28/89	330		ug/L
W104	06/27/90	10 U		ug/L	W104	06/27/90	820		ug/L
W104	06/19/91	10 U		ug/L	W104	06/19/91	200		ug/L
W104	05/28/92	10 U		ug/L	W104	05/28/92	84		ug/L
W104	06/02/93	0.288 U		ug/L	W104	06/02/93	250		ug/L
W104	06/14/94	0.244		ug/L	W104	06/14/94	110		ug/L
W104	06/08/95	3.8		ug/L	W104	06/08/95	590		ug/L
W104	06/06/97	80 U		ug/L	W104	06/06/97	740		ug/L
W104	05/18/99	0.94		ug/L	W104	05/18/99	1000		ug/L
W104	04/25/01	14		ug/L	W104	04/25/01	2400		ug/L
W104	05/11/03	30		ug/L	W104	05/11/03	3200		ug/L
W104	05/14/05	1.7		ug/L	W104	05/14/05	310		ug/L
W104	09/16/06	0.2 U		ug/L	W104	09/16/06	670		ug/L
W104	05/16/07	0.74		ug/L	W104	05/16/07	290		ug/L
W104	05/26/08	0.16 U		ug/L	W104	05/26/08	220		ug/L
W105	12/16/86	0.023		ug/L	W105	12/16/86	5 U		ug/L
W105	07/22/93	0.0125		ug/L	W105	06/02/93	6 U		ug/L
W105	06/14/94	0.01		ug/L	W105	06/14/94	3 U		ug/L
W105	05/16/99	0.02 U		ug/L	W105	05/16/99	3 U		ug/L
W105	04/24/01	0.02 U		ug/L	W105	04/24/01	0.5 U		ug/L
W105	05/05/03	0.03		ug/L	W105	05/05/03	0.5 U		ug/L
W105	08/15/03	0.02 U		ug/L	W105	08/15/03	0.5 U		ug/L
W105	04/26/04	0.02 U		ug/L	W105	04/26/04	0.96 U		ug/L
W105	04/26/04	0.02 U		ug/L	W105	04/26/04	0.96 U		ug/L
W105	05/07/05	0.021 U		ug/L	W105	05/07/05	0.5 U		ug/L
W105	09/13/06	0.031 U		ug/L	W105	09/13/06	0.13 U		ug/L
W105R	05/06/07	0.78		ug/L	W105R	05/06/07	36		ug/L
W105R	08/24/07	3 U		ug/L	W105R	08/24/07	140		ug/L
W105R	05/18/08	1.5 U		ug/L	W105R	05/18/08	66		ug/L
W105R	05/13/09	1.7 U		ug/L	W105R	05/13/09	73		ug/L
W105R	11/11/09	1.3 U		ug/L	W105R	11/11/09	0.84		ug/L
W112	12/18/86	0.016		ug/L	W112	12/18/86	6 U		ug/L
W112	06/24/87	0.026		ug/L	W112	06/24/87	6 U		ug/L
W112	06/28/88	0.0064		ug/L	W112	06/28/88	6 U		ug/L
W112	06/28/89	0.0038 U		ug/L	W112	06/28/89	6 U		ug/L
W112	06/27/90	0.0038		ug/L	W112	06/27/90	6 U		ug/L
W112	06/19/91	1.1		ug/L	W112	06/19/91	6 U		ug/L
W112	05/27/92	0.004 U		ug/L	W112	05/27/92	6 U		ug/L
W112	07/22/93	0.004 U		ug/L	W112	06/02/93	6 U		ug/L
W112	06/14/94	0.011		ug/L	W112	06/14/94	3 U		ug/L
W112	06/08/95	0.003		ug/L	W112	06/08/95	3 U		ug/L
W112	06/06/97	10 U		ug/L	W112	06/06/97	50 U		ug/L
W112	05/16/99	0.02 U		ug/L	W112	05/16/99	3 U		ug/L
W112	04/25/01	0.019 U		ug/L	W112	04/25/01	0.5 U		ug/L
W112	05/05/03	0.02 U		ug/L	W112	05/05/03	0.5 U		ug/L
W112	05/08/05	0.02 U		ug/L	W112	05/08/05	0.5 U		ug/L
W112	05/08/05	0.02 U		ug/L	W112	05/08/05	0.5 U		ug/L
W112	09/12/06	0.0066 U		ug/L	W112	09/12/06	0.13 U*		ug/L
W112	05/06/07	0.0065 U		ug/L	W112	05/06/07	0.13 U		ug/L

**Appendix D - Data Summary Table**  
**Naphthalene and Pentachlorophenol - Trend Analysis**  
**St. Regis Paper Company Site**

StationID	Date	Naphthalene			StationID	Date	Pentachlorophenol		
		Conc	Qualifier	Units			Conc	Qualifier	Units
W112	05/06/07	0.0065	U	ug/L	W112	05/06/07	0.13	U	ug/L
W112	05/18/08	0.007	U	ug/L	W112	05/18/08	0.08	U	ug/L
W114	12/16/86	0.017		ug/L	W114	12/16/86	5	U	ug/L
W114	06/22/87	0.0093		ug/L	W114	06/22/87	6	U	ug/L
W114	06/28/88	0.0067		ug/L	W114	06/28/88	6	U	ug/L
W114	06/28/89	0.0086		ug/L	W114	06/28/89	6	U	ug/L
W114	06/27/90	0.002		ug/L	W114	06/27/90	6	U	ug/L
W114	06/19/91	0.0094		ug/L	W114	06/19/91	6	U	ug/L
W114	05/27/92	0.008	U	ug/L	W114	05/27/92	6	U	ug/L
W114	06/02/93	0.0121		ug/L	W114	06/02/93	6	U	ug/L
W114	06/14/94	0.022		ug/L	W114	06/14/94	3	U	ug/L
W114	06/08/95	0.004		ug/L	W114	06/08/95	3	U	ug/L
W114	06/04/96	10	U	ug/L	W114	06/04/96	50	U	ug/L
W114	06/06/97	10	U	ug/L	W114	06/06/97	50	U	ug/L
W114	04/29/98	0.1	U	ug/L	W114	04/29/98	5	U	ug/L
W114	05/16/99	0.02	U	ug/L	W114	05/16/99	3	U	ug/L
W114	04/04/00	0.02	U	ug/L	W114	04/04/00	3	U	ug/L
W114	04/25/01	0.019	U	ug/L	W114	04/25/01	0.5	U	ug/L
W114	05/02/02	0.02	U	ug/L	W114	05/02/02	3	U	ug/L
W114	05/05/03	0.02	U	ug/L	W114	05/05/03	0.5	U	ug/L
W114	04/25/04	0.02	U	ug/L	W114	04/25/04	0.96	U	ug/L
W114	05/07/05	0.021	U	ug/L	W114	05/07/05	0.5	U	ug/L
W114	09/13/06	0.0078	U	ug/L	W114	09/13/06	0.13	U	ug/L
W114	05/06/07	0.0065	U	ug/L	W114	05/06/07	0.13	U	ug/L
W114	05/18/08	0.011	U	ug/L	W114	05/18/08	0.08	U	ug/L
W114	05/13/09	0.0063	U	ug/L	W114	05/13/09	0.16	U	ug/L
W115	06/23/87	0.012		ug/L	W115	06/23/87	6	U	ug/L
W115	06/28/88	0.0074		ug/L	W115	06/28/88	6	U	ug/L
W115	06/28/89	0.0064		ug/L	W115	06/28/89	6	U	ug/L
W115	06/27/90	0.0019	U	ug/L	W115	06/27/90	6	U	ug/L
W115	06/19/91	0.011		ug/L	W115	06/19/91	6	U	ug/L
W115	05/27/92	0.0086		ug/L	W115	05/27/92	6	U	ug/L
W115	06/02/93	0.0113		ug/L	W115	06/02/93	6	U	ug/L
W115	06/14/94	0.011		ug/L	W115	06/14/94	3	U	ug/L
W115	06/06/95	0.003		ug/L	W115	06/06/95	3	U	ug/L
W115	06/04/96	10	U	ug/L	W115	06/04/96	50	U	ug/L
W115	06/06/97	10	U	ug/L	W115	06/06/97	50	U	ug/L
W115	04/29/98	0.1	U	ug/L	W115	04/29/98	5	U	ug/L
W115	05/16/99	0.02	U	ug/L	W115	05/16/99	3	U	ug/L
W115	04/04/00	0.02	U	ug/L	W115	04/04/00	3	U	ug/L
W115	04/24/01	0.019	U	ug/L	W115	04/24/01	0.5	U	ug/L
W115	05/05/02	0.021	U	ug/L	W115	05/05/02	3.1	U	ug/L
W115	05/05/03	0.02	U	ug/L	W115	05/05/03	0.5	U	ug/L
W115	04/25/04	0.02	U	ug/L	W115	04/25/04	0.96	U	ug/L
W115	05/07/05	0.022	U	ug/L	W115	05/07/05	0.5	U	ug/L
W115	09/14/06	0.009	U	ug/L	W115	09/14/06	0.13	U	ug/L
W115	05/06/07	0.0067	U	ug/L	W115	05/06/07	0.13	U	ug/L
W115	05/19/08	0.013	U	ug/L	W115	05/18/08	0.08	U	ug/L
W115	05/13/09	0.005	U	ug/L	W115	05/13/09	0.16	U	ug/L
W205	12/18/86	0.013		ug/L	W205	12/18/86	6	U	ug/L
W205	07/22/93	0.0113		ug/L	W205	06/02/93	6	U	ug/L

**Appendix D - Data Summary Table**  
**Naphthalene and Pentachlorophenol - Trend Analysis**  
**St. Regis Paper Company Site**

StationID	Date	Naphthalene			StationID	Date	Pentachlorophenol		
		Conc	Qualifier	Units			Conc	Qualifier	Units
W205	06/14/94	0.12	U	ug/L	W205	06/14/94	3	U	ug/L
W205	05/16/99	0.02	U	ug/L	W205	05/16/99	3	U	ug/L
W205	04/24/01	0.019	U	ug/L	W205	04/24/01	0.5	U	ug/L
W205	05/05/03	0.02	U	ug/L	W205	05/05/03	0.5	U	ug/L
W205	05/07/05	0.02	U	ug/L	W205	05/07/05	0.5	U	ug/L
W205	09/13/06	0.0078	U	ug/L	W205	09/13/06	0.13	U	ug/L
W205	05/06/07	0.0065	U	ug/L	W205	05/06/07	0.13	U	ug/L
W205	05/18/08	0.041	U	ug/L	W205	05/18/08	0.08	U	ug/L
W209	12/19/86	0.075		ug/L	W209	12/19/86	6	U	ug/L
W209	05/16/99	0.02	U	ug/L	W209	05/16/99	3	U	ug/L
W209	04/24/01	0.019	U	ug/L	W209	04/24/01	0.5	U	ug/L
W209	05/05/03	0.02	U	ug/L	W209	05/05/03	0.5	U	ug/L
W209	05/07/05	0.022	U	ug/L	W209	05/07/05	0.5	U	ug/L
W209	09/13/06	0.0088	U	ug/L	W209	09/13/06	0.13	U	ug/L
W209	05/05/07	0.0065	U	ug/L	W209	05/05/07	0.13	U	ug/L
W209	05/19/08	0.011	U	ug/L	W209	05/19/08	0.08	U	ug/L
W212	12/19/86	980		ug/L	W212	12/19/86	8900		ug/L
W212	06/23/87	740		ug/L	W212	06/23/87	4000		ug/L
W212	06/29/88	550		ug/L	W212	06/29/88	3800		ug/L
W212	06/28/89	230		ug/L	W212	06/28/89	3500		ug/L
W212	06/27/90	52		ug/L	W212	06/27/90	5100		ug/L
W212	06/19/91	28		ug/L	W212	06/19/91	2200		ug/L
W212	05/28/92	150	U	ug/L	W212	05/28/92	2200		ug/L
W212	06/02/93	13		ug/L	W212	06/02/93	2900		ug/L
W212	06/14/94	10		ug/L	W212	06/14/94	3900		ug/L
W212	06/08/95	750	U	ug/L	W212	06/08/95	2300		ug/L
W212	06/04/96	5		ug/L	W212	06/04/96	1300		ug/L
W212	06/06/97	70	U	ug/L	W212	06/06/97	950		ug/L
W212	04/29/98	1.6		ug/L	W212	04/29/98	470		ug/L
W212	05/16/99	2.4		ug/L	W212	05/16/99	430		ug/L
W212	04/04/00	2.8		ug/L	W212	04/04/00	69		ug/L
W212	04/25/01	3.1		ug/L	W212	04/25/01	110		ug/L
W212	05/05/02	1.1		ug/L	W212	05/05/02	19		ug/L
W212	05/10/03	1.6		ug/L	W212	05/10/03	45		ug/L
W212	05/10/03	1.4		ug/L	W212	05/10/03	45		ug/L
W212	04/25/04	1.8		ug/L	W212	04/25/04	4.6		ug/L
W212	05/15/05	1.8		ug/L	W212	05/15/05	46		ug/L
W212	05/15/05	1.7		ug/L	W212	05/15/05	46		ug/L
W212	09/16/06	1.7		ug/L	W212	09/16/06	17		ug/L
W212	12/06/06	0.63		ug/L	W212	12/06/06	20		ug/L
W212	02/28/07	2.5		ug/L	W212	02/28/07	10		ug/L
W212	05/16/07	1		ug/L	W212	05/16/07	15		ug/L
W212	08/23/07	1		ug/L	W212	08/23/07	9.3		ug/L
W212	10/31/07	1.7		ug/L	W212	10/31/07	10		ug/L
W212	03/27/08	0.65		ug/L	W212	03/27/08	25		ug/L
W212	05/26/08	0.9		ug/L	W212	05/26/08	23		ug/L
W212	08/22/08	0.022	U	ug/L	W212	08/22/08	110		ug/L
W212	11/20/08	0.49		ug/L	W212	11/20/08	16		ug/L
W212	05/18/09	0.89		ug/L	W212	05/18/09	12		ug/L
W212	08/25/09	0.91		ug/L	W212	08/25/09	12		ug/L
W212	11/10/09	0.34		ug/L	W212	11/10/09	9		ug/L

**Appendix D - Data Summary Table**  
**Naphthalene and Pentachlorophenol - Trend Analysis**  
**St. Regis Paper Company Site**

StationID	Date	Naphthalene			StationID	Date	Pentachlorophenol		
		Conc	Qualifier	Units			Conc	Qualifier	Units
W213	12/19/86	1300		ug/L	W213	12/19/86	20000		ug/L
W213	06/23/87	1100		ug/L	W213	06/23/87	12000		ug/L
W213	06/29/88	1200		ug/L	W213	06/29/88	4800		ug/L
W213	06/28/89	1000		ug/L	W213	06/28/89	12000		ug/L
W213	06/27/90	470		ug/L	W213	06/27/90	5800		ug/L
W213	06/19/91	810		ug/L	W213	06/19/91	830		ug/L
W213	05/28/92	150		ug/L	W213	05/28/92	300		ug/L
W213	06/02/93	170		ug/L	W213	06/02/93	10	U	ug/L
W213	06/14/94	130		ug/L	W213	06/14/94	20	U	ug/L
W213	06/08/95	67		ug/L	W213	06/08/95	10	U	ug/L
W213	06/04/96	47		ug/L	W213	06/04/96	50	U	ug/L
W213	06/06/97	36		ug/L	W213	06/06/97	50	U	ug/L
W213	04/29/98	21		ug/L	W213	04/29/98	3		ug/L
W213	05/16/99	22		ug/L	W213	05/16/99	3	U	ug/L
W213	04/04/00	470		ug/L	W213	04/04/00	1900		ug/L
W213	04/25/01	64		ug/L	W213	04/25/01	0.5	U	ug/L
W213	05/05/02	36		ug/L	W213	05/05/02	3	U	ug/L
W213	05/10/03	31		ug/L	W213	05/10/03	0.5	U	ug/L
W213	04/25/04	21		ug/L	W213	04/25/04	0.96	U	ug/L
W213	05/15/05	200		ug/L	W213	05/15/05	0.5	U	ug/L
W213	09/16/06	140		ug/L	W213	09/16/06	0.13	U	ug/L
W213	12/06/06	140		ug/L	W213	12/06/06	0.13	U	ug/L
W213	02/28/07	120		ug/L	W213	02/28/07	0.13	U	ug/L
W213	05/15/07	100		ug/L	W213	05/15/07	0.13	U	ug/L
W213	08/23/07	81		ug/L	W213	08/23/07	0.08	U	ug/L
W213	03/27/08	5.5		ug/L	W213	03/27/08	0.08	U	ug/L
W213	05/26/08	6.8	U	ug/L	W213	05/26/08	0.08	U	ug/L
W213	08/22/08	2.6	U	ug/L	W213	08/22/08	0.11	j	ug/L
W213	11/20/08	2.3		ug/L	W213	11/20/08	0.08	U	ug/L
W213	02/18/09	1.4		ug/L	W213	02/18/09	0.16	U	ug/L
W213	05/19/09	5.4		ug/L	W213	05/19/09	0.16	U	ug/L
W213	08/26/09	4.4		ug/L	W213	08/26/09	0.16	U	ug/L
W213	11/11/09	3.2		ug/L	W213	11/11/09	0.16	U	ug/L
W215	06/24/87	11		ug/L	W215	06/24/87	27000		ug/L
W215	06/29/88	8.6		ug/L	W215	06/29/88	4400		ug/L
W215	06/28/89	10	U	ug/L	W215	06/28/89	2700		ug/L
W215	06/27/90	16		ug/L	W215	06/27/90	4200		ug/L
W215	06/19/91	100	U	ug/L	W215	06/19/91	2800		ug/L
W215	05/28/92	75	U	ug/L	W215	05/28/92	1900		ug/L
W215	06/02/93	5		ug/L	W215	06/02/93	2200		ug/L
W215	06/14/94	4		ug/L	W215	06/14/94	3400		ug/L
W215	06/08/95	500	U	ug/L	W215	06/08/95	1600		ug/L
W215	06/04/96	1		ug/L	W215	06/04/96	1100		ug/L
W215	06/06/97	100	U	ug/L	W215	06/06/97	1200		ug/L
W215	04/29/98	0.7	U	ug/L	W215	04/29/98	700		ug/L
W215	05/16/99	0.41		ug/L	W215	05/16/99	410		ug/L
W215	04/03/00	0.48		ug/L	W215	04/03/00	68		ug/L
W215	04/24/01	0.55		ug/L	W215	04/24/01	320		ug/L
W215	05/05/02	0.55		ug/L	W215	05/05/02	160		ug/L
W215	05/05/02	0.52		ug/L	W215	05/05/02	170		ug/L
W215	05/10/03	0.3		ug/L	W215	05/10/03	47		ug/L
W215	04/25/04	0.34		ug/L	W215	04/25/04	78		ug/L
W215	05/15/05	0.64		ug/L	W215	05/15/05	21		ug/L

**Appendix D - Data Summary Table**  
**Naphthalene and Pentachlorophenol - Trend Analysis**  
**St. Regis Paper Company Site**

StationID	Date	Naphthalene			StationID	Date	Pentachlorophenol		
		Conc	Qualifier	Units			Conc	Qualifier	Units
W215	09/16/06	0.26	U	ug/L	W215	09/16/06	13		ug/L
W215	05/16/07	0.18	U	ug/L	W215	05/16/07	2.9		ug/L
W215	05/26/08	0.31		ug/L	W215	05/26/08	0.08	U	ug/L
W215	05/19/09	0.15		ug/L	W215	05/19/09	0.16	U	ug/L
W217	12/19/86	0.041		ug/L	W217	12/19/86	6	U	ug/L
W217	06/22/87	0.011		ug/L	W217	06/22/87	6	U	ug/L
W217	06/28/88	0.007		ug/L	W217	06/28/88	6	U	ug/L
W217	06/27/89	0.0094		ug/L	W217	06/27/89	6	U	ug/L
W217	06/27/90	0.0019	U	ug/L	W217	06/27/90	6	U	ug/L
W217	06/19/91	0.011		ug/L	W217	06/19/91	6	U	ug/L
W217	05/26/92	0.019		ug/L	W217	05/26/92	6	U	ug/L
W217	06/02/93	0.00682		ug/L	W217	06/02/93	6	U	ug/L
W217	06/14/94	0.015		ug/L	W217	06/14/94	3	U	ug/L
W217	06/08/95	0.003		ug/L	W217	06/08/95	3	U	ug/L
W217	06/06/97	10	U	ug/L	W217	06/06/97	50	U	ug/L
W217	05/17/99	0.02	U	ug/L	W217	05/17/99	3	U	ug/L
W217	04/20/01	0.02	U	ug/L	W217	04/20/01	0.5	U	ug/L
W217	05/04/03	0.02	U	ug/L	W217	05/04/03	0.5	U	ug/L
W217	05/07/05	0.02	U	ug/L	W217	05/07/05	0.5	U	ug/L
W217	09/10/06	0.008	U	ug/L	W217	09/10/06	0.13	U	ug/L
W217	05/05/07	0.0065	U	ug/L	W217	05/05/07	0.13	U	ug/L
W217	05/18/08	0.048	U	ug/L	W217	05/18/08	0.08	U	ug/L
W218	06/24/87	0.038	U	ug/L	W218	06/24/87	3000		ug/L
W218	06/29/88	1.4		ug/L	W218	06/29/88	860		ug/L
W218	07/10/89	1.9		ug/L	W218	07/10/89	78		ug/L
W218	06/27/90	8.8		ug/L	W218	06/27/90	490		ug/L
W218	06/19/91	0.08	U	ug/L	W218	06/19/91	170		ug/L
W218	05/27/92	0.032	U	ug/L	W218	05/27/92	14		ug/L
W218	07/22/93	0.0823		ug/L	W218	06/02/93	26		ug/L
W218	06/14/94	0.06	U	ug/L	W218	06/14/94	13		ug/L
W218	06/08/95	0.012	U	ug/L	W218	06/08/95	26		ug/L
W218	06/06/97	10	U	ug/L	W218	06/06/97	17		ug/L
W218	05/18/99	0.02	U	ug/L	W218	05/18/99	45		ug/L
W218	04/25/01	0.019	U	ug/L	W218	04/25/01	34		ug/L
W218	05/11/03	0.12		ug/L	W218	05/11/03	3.6		ug/L
W218	05/14/05	0.02	U	ug/L	W218	05/14/05	110		ug/L
W218	09/16/06	5.2		ug/L	W218	09/16/06	66		ug/L
W218	05/16/07	0.01	U	ug/L	W218	05/16/07	15		ug/L
W218	05/27/08	0.023		ug/L	W218	05/27/08	7.8		ug/L
W219	06/24/87	6	U	ug/L	W219	06/24/87	7.8		ug/L
W219	06/29/88	6	U	ug/L	W219	06/29/88	6	U	ug/L
W219	07/10/89	0.69		ug/L	W219	07/10/89	16		ug/L
W219	06/27/90	10	U	ug/L	W219	06/27/90	10	U	ug/L
W219	06/19/91	10	U	ug/L	W219	06/19/91	10	U	ug/L
W219	05/26/92	10	U	ug/L	W219	05/26/92	10	U	ug/L
W219	06/02/93	0.246		ug/L	W219	06/02/93	6	U	ug/L
W219	06/14/94	0.276		ug/L	W219	06/14/94	3	U	ug/L
W219	06/08/95	0.45	U	ug/L	W219	06/08/95	3	U	ug/L
W219	06/06/97	10	U	ug/L	W219	06/06/97	50	U	ug/L
W219	05/17/99	0.14		ug/L	W219	05/17/99	3	U	ug/L
W219	04/05/00	0.21		ug/L	W219	04/05/00	3	U	ug/L

**Appendix D - Data Summary Table**  
**Naphthalene and Pentachlorophenol - Trend Analysis**  
**St. Regis Paper Company Site**

StationID	Date	Naphthalene			StationID	Date	Pentachlorophenol		
		Conc	Qualifier	Units			Conc	Qualifier	Units
W219	04/20/01	0.22		ug/L	W219	04/20/01	0.5 U		ug/L
W219	05/02/02	0.22		ug/L	W219	05/02/02	3.1 U		ug/L
W219	05/04/03	0.11		ug/L	W219	05/04/03	0.5 U		ug/L
W219	04/25/04	0.13		ug/L	W219	04/25/04	0.96 U		ug/L
W219	05/07/05	0.12 b		ug/L	W219	05/07/05	0.5 U		ug/L
W219	05/07/05	0.11 b		ug/L	W219	05/07/05	0.5 U		ug/L
W219	09/10/06	0.077 U		ug/L	W219	09/10/06	0.13 U		ug/L
W219	09/10/06	0.07 U		ug/L	W219	09/10/06	0.13 U		ug/L
W219	05/05/07	0.067 U		ug/L	W219	05/05/07	0.13 U		ug/L
W219	05/05/07	0.049 U		ug/L	W219	05/05/07	0.13 U		ug/L
W219	05/18/08	0.055 U		ug/L	W219	05/18/08	0.08 U		ug/L
W220	06/14/94	363		ug/L	W220	06/14/94	1000		ug/L
W220	12/01/94	270		ug/L	W220	12/01/94	350		ug/L
W220	06/08/95	200		ug/L	W220	06/08/95	570		ug/L
W220	06/04/96	76		ug/L	W220	06/04/96	180		ug/L
W220	06/06/97	48		ug/L	W220	06/06/97	200		ug/L
W220	04/29/98	23		ug/L	W220	04/29/98	98		ug/L
W220	05/16/99	11		ug/L	W220	05/16/99	72		ug/L
W220	04/04/00	21		ug/L	W220	04/04/00	88		ug/L
W220	04/24/01	18		ug/L	W220	04/24/01	24		ug/L
W220	05/05/02	16		ug/L	W220	05/05/02	4.5		ug/L
W220	05/10/03	7.4		ug/L	W220	05/10/03	51		ug/L
W220	05/10/03	7.3		ug/L	W220	05/10/03	51		ug/L
W220	04/25/04	14		ug/L	W220	04/25/04	7.5		ug/L
W220	05/15/05	16		ug/L	W220	05/15/05	9.6		ug/L
W220	09/17/06	12		ug/L	W220	09/17/06	7.1		ug/L
W220	09/17/06	11		ug/L	W220	09/17/06	5.2		ug/L
W220	12/06/06	18		ug/L	W220	12/06/06	0.31 j		ug/L
W220	02/28/07	9.7		ug/L	W220	02/28/07	0.46 j		ug/L
W220	05/13/07	9.6		ug/L	W220	05/13/07	12		ug/L
W220	08/23/07	11		ug/L	W220	08/23/07	0.08 U		ug/L
W220	10/30/07	1.3 U		ug/L	W220	10/30/07	0.08 U		ug/L
W220	03/27/08	5.1 U		ug/L	W220	03/27/08	1.9		ug/L
W220	05/26/08	4.9		ug/L	W220	05/26/08	17		ug/L
W220	08/23/08	0.56		ug/L	W220	08/23/08	0.5 p		ug/L
W220	11/19/08	4.3		ug/L	W220	11/19/08	17		ug/L
W220	02/17/09	5.2		ug/L	W220	02/17/09	11		ug/L
W220	05/18/09	2		ug/L	W220	05/18/09	5.5		ug/L
W220	08/25/09	0.025 U		ug/L	W220	08/25/09	2.2		ug/L
W220	11/11/09	0.22		ug/L	W220	11/11/09	1.0		ug/L
W221	06/14/94	0.031		ug/L	W221	06/14/94	3 U		ug/L
W221	12/01/94	0.012		ug/L	W221	12/01/94	3 U		ug/L
W221	06/08/95	0.003		ug/L	W221	06/08/95	3 U		ug/L
W221	06/06/97	10 U		ug/L	W221	06/06/97	50 U		ug/L
W221	05/17/99	0.02 U		ug/L	W221	05/17/99	3 U		ug/L
W221	04/20/01	0.02 U		ug/L	W221	04/20/01	0.5 U		ug/L
W221	05/04/03	0.02 U		ug/L	W221	05/04/03	0.5 U		ug/L
W221	05/07/05	0.02 U		ug/L	W221	05/07/05	0.5 U		ug/L
W221	09/09/06	0.0065 U		ug/L	W221	09/09/06	0.13 U		ug/L
W221	05/05/07	0.0065 U		ug/L	W221	05/05/07	0.13 U		ug/L
W221	05/18/08	0.013 U		ug/L	W221	05/18/08	0.08 U		ug/L

**Appendix D - Data Summary Table**  
**Naphthalene and Pentachlorophenol - Trend Analysis**  
**St. Regis Paper Company Site**

StationID	Date	Naphthalene			StationID	Date	Pentachlorophenol		
		Conc	Qualifier	Units			Conc	Qualifier	Units
MW3	06/27/89	0.0058		ug/L	MW3	06/27/89	6	U	ug/L
MW3	06/27/90	0.028		ug/L	MW3	06/27/90	6	U	ug/L
MW3	06/18/91	0.0048		ug/L	MW3	06/18/91	6	U	ug/L
MW3	05/26/92	0.019		ug/L	MW3	05/26/92	6	U	ug/L
MW3	06/01/93	0.00941		ug/L	MW3	06/01/93	6	U	ug/L
MW3	06/14/94	0.015		ug/L	MW3	06/14/94	3	U	ug/L
MW3	06/06/95	0.017		ug/L	MW3	06/06/95	3	U	ug/L
MW3	06/04/97	10	U	ug/L	MW3	06/04/97	50	U	ug/L
MW3	05/15/99	0.02	U	ug/L	MW3	05/15/99	3	U	ug/L
MW3	04/25/01	0.02	U	ug/L	MW3	04/25/01	0.5	U	ug/L
MW3	05/07/03	0.02	U	ug/L	MW3	05/07/03	0.5	U	ug/L
MW3	05/08/05	0.021	U	ug/L	MW3	05/08/05	0.5	U	ug/L
MW3	09/10/06	0.0065	U	ug/L	MW3	09/10/06	0.13	U	ug/L
MW3	05/14/07	0.024	U	ug/L	MW3	05/14/07	0.13	U	ug/L
MW3	05/25/08	0.027	U	ug/L	MW3	05/25/08	0.08	U	ug/L
W302	06/22/87	0.012		ug/L	W302	06/22/87	6	U	ug/L
W302	12/08/87	0.039		ug/L	W302	12/08/87	6	U	ug/L
W302	06/28/88	0.049		ug/L	W302	06/28/88	6	U	ug/L
W302	12/14/88	0.017		ug/L	W302	12/14/88	6	U	ug/L
W302	06/27/89	0.037		ug/L	W302	06/27/89	6	U	ug/L
W302	06/27/90	0.018		ug/L	W302	06/27/90	6	U	ug/L
W302	06/19/91	0.037		ug/L	W302	06/19/91	6	U	ug/L
W302	05/27/92	0.019		ug/L	W302	05/27/92	6	U	ug/L
W302	06/02/93	0.00947		ug/L	W302	06/02/93	6	U	ug/L
W302	06/14/94	0.092		ug/L	W302	06/14/94	3	U	ug/L
W302	06/06/95	0.016		ug/L	W302	06/06/95	3	U	ug/L
W302	06/04/97	10	U	ug/L	W302	06/04/97	50	U	ug/L
W302	05/13/99	0.02	U	ug/L	W302	05/13/99	3	U	ug/L
W302	04/25/01	0.02	U	ug/L	W302	04/25/01	0.5	U	ug/L
W302	05/08/03	0.042		ug/L	W302	05/08/03	0.5	U	ug/L
W302	05/08/03	0.043		ug/L	W302	05/08/03	0.5	U	ug/L
W302	05/08/05	0.02	U	ug/L	W302	05/08/05	0.5	U	ug/L
W302	09/17/06	0.029	U	ug/L	W302	09/17/06	0.14	j	ug/L
W302	05/12/07	0.035		ug/L	W302	05/12/07	0.13	U	ug/L
W302	05/24/08	0.041	U	ug/L	W302	05/24/08	0.08	U	ug/L
W306	06/22/87	0.016		ug/L	W306	06/22/87	6	U	ug/L
W306	12/08/87	0.044		ug/L	W306	12/08/87	6	U	ug/L
W306	06/28/88	0.013		ug/L	W306	06/28/88	6	U	ug/L
W306	12/14/88	0.029		ug/L	W306	12/14/88	6	U	ug/L
W306	06/28/89	0.0047		ug/L	W306	06/28/89	6	U	ug/L
W306	06/27/90	0.003		ug/L	W306	06/27/90	6	U	ug/L
W306	06/19/91	0.32		ug/L	W306	06/19/91	6	U	ug/L
W306	05/27/92	0.008	U	ug/L	W306	05/27/92	6	U	ug/L
W306	06/02/93	0.00923		ug/L	W306	06/02/93	6	U	ug/L
W306	06/14/94	0.01		ug/L	W306	06/14/94	3	U	ug/L
W306	06/06/95	0.007		ug/L	W306	06/06/95	3	U	ug/L
W306	06/05/96	10	U	ug/L	W306	06/05/96	50	U	ug/L
W306	06/04/97	10	U	ug/L	W306	06/04/97	50	U	ug/L
W306	04/30/98	0.1	U	ug/L	W306	04/30/98	5	U	ug/L
W306	05/13/99	0.04		ug/L	W306	05/13/99	3	U	ug/L
W306	04/04/00	0.02	U	ug/L	W306	04/04/00	3	U	ug/L
W306	04/25/01	0.02	U	ug/L	W306	04/25/01	0.5	U	ug/L

**Appendix D - Data Summary Table**  
**Naphthalene and Pentachlorophenol - Trend Analysis**  
**St. Regis Paper Company Site**

StationID	Date	Naphthalene			StationID	Date	Pentachlorophenol		
		Conc	Qualifier	Units			Conc	Qualifier	Units
W306	05/04/02	0.023		ug/L	W306	05/04/02	0.5	U	ug/L
W306	05/07/03	0.031		ug/L	W306	05/07/03	0.5	U	ug/L
W306	04/24/04	0.02	U	ug/L	W306	04/24/04	0.96	U	ug/L
W306	05/14/05	0.021	U	ug/L	W306	05/14/05	0.5	U	ug/L
W306	09/18/06	0.034	U	ug/L	W306	09/18/06	0.19	j	ug/L
W306	05/12/07	0.011	j	ug/L	W306	05/12/07	0.13	U	ug/L
W306	05/24/08	0.038	U	ug/L	W306	05/24/08	0.08	U	ug/L
W306	05/14/09	0.02	U	ug/L	W306	05/14/09	0.16	U	ug/L
W124	10/20/87	0.0073		ug/L	W124	10/20/87	6	U	ug/L
W124	01/19/88	0.003		ug/L	W124	01/19/88	6	U	ug/L
W124	06/29/88	0.028		ug/L	W124	06/29/88	6	U	ug/L
W124	08/30/88	0.003		ug/L	W124	08/30/88	6	U	ug/L
W124	12/15/88	0.022		ug/L	W124	12/15/88	6	U	ug/L
W124	03/28/89	0.0021		ug/L	W124	03/28/89	30	U	ug/L
W124	06/27/89	0.0048		ug/L	W124	06/27/89	6	U	ug/L
W124	08/31/89	0.0031		ug/L	W124	08/31/89	6	U	ug/L
W124	12/13/89	0.0022		ug/L	W124	12/13/89	6	U	ug/L
W124	03/05/90	0.004		ug/L	W124	03/05/90	6	U	ug/L
W124	06/28/90	0.0047		ug/L	W124	06/28/90	6	U	ug/L
W124	06/18/91	0.004	U	ug/L	W124	06/18/91	6	U	ug/L
W124	12/18/91	0.0069		ug/L	W124	12/18/91	6	U	ug/L
W124	05/27/92	0.004	U	ug/L	W124	05/27/92	6	U	ug/L
W124	12/10/92	0.08	U	ug/L	W124	12/10/92	6	U	ug/L
W124	02/09/93	0.00679		ug/L	W124	06/03/93	6	U	ug/L
W124	06/03/93	0.004	U	ug/L	W124	11/02/93	6	U	ug/L
W124	11/02/93	0.00759		ug/L	W124	06/15/94	3	U	ug/L
W124	06/15/94	0.004		ug/L	W124	12/01/94	3	U	ug/L
W124	12/01/94	0.006		ug/L	W124	06/07/95	3	U	ug/L
W124	06/07/95	0.003	U	ug/L	W124	11/07/95	3	U	ug/L
W124	11/07/95	0.006	U	ug/L	W124	06/05/96	50	U	ug/L
W124	06/05/96	10	U	ug/L	W124	06/04/97	50	U	ug/L
W124	06/04/97	10	U	ug/L	W124	04/30/98	0.5	U	ug/L
W124	04/30/98	0.1	U	ug/L	W124	05/13/99	3	U	ug/L
W124	05/13/99	0.02	U	ug/L	W124	04/03/00	3	U	ug/L
W124	04/03/00	0.02	U	ug/L	W124	04/26/01	0.5	U	ug/L
W124	04/26/01	0.019	U	ug/L	W124	05/04/02	3.1	U	ug/L
W124	05/04/02	0.021	U	ug/L	W124	05/12/03	0.5	U	ug/L
W124	05/12/03	0.021		ug/L	W124	04/24/04	0.96	U	ug/L
W124	04/24/04	0.02	U	ug/L	W124	05/11/05	0.5	U	ug/L
W124	05/11/05	0.021	U	ug/L	W124	09/04/06	0.13	U	ug/L
W124	09/04/06	0.0081	j	ug/L	W124	05/09/07	0.13	U	ug/L
W124	05/09/07	0.0074	U	ug/L	W124	05/17/08	0.08	U	ug/L
W124	05/17/08	0.059	U	ug/L	W124	05/11/09	0.16	U	ug/L
W124	05/11/09	0.08		ug/L	W124				
W125	10/20/87	0.0068		ug/L	W125	10/20/87	6	U	ug/L
W125	01/19/88	0.0022		ug/L	W125	01/19/88	6	U	ug/L
W125	06/29/88	0.0034		ug/L	W125	06/29/88	6	U	ug/L
W125	08/30/88	0.0031		ug/L	W125	08/30/88	6	U	ug/L
W125	12/15/88	0.0019	U	ug/L	W125	12/15/88	6	U	ug/L
W125	03/28/89	0.0019	U	ug/L	W125	03/28/89	30	U	ug/L
W125	06/27/89	0.0047		ug/L	W125	06/27/89	6	U	ug/L
W125	08/31/89	0.0031		ug/L	W125	08/31/89	6	U	ug/L

**Appendix D - Data Summary Table**  
**Naphthalene and Pentachlorophenol - Trend Analysis**  
**St. Regis Paper Company Site**

StationID	Date	Naphthalene			StationID	Date	Pentachlorophenol		
		Conc	Qualifier	Units			Conc	Qualifier	Units
W125	12/13/89	0.0022		ug/L	W125	12/13/89	6	U	ug/L
W125	03/05/90	0.0044		ug/L	W125	03/05/90	6	U	ug/L
W125	06/28/90	0.0038	U	ug/L	W125	06/28/90	6	U	ug/L
W125	06/18/91	0.004	U	ug/L	W125	06/18/91	6	U	ug/L
W125	12/18/91	0.0057		ug/L	W125	12/18/91	6	U	ug/L
W125	05/27/92	0.004	U	ug/L	W125	05/27/92	6	U	ug/L
W125	12/10/92	0.08	U	ug/L	W125	12/10/92	6	U	ug/L
W125	02/09/93	0.004	U	ug/L					
W125	06/03/93	0.0047		ug/L	W125	06/03/93	6	U	ug/L
W125	11/02/93	0.00788		ug/L	W125	11/02/93	6	U	ug/L
W125	06/15/94	0.004		ug/L	W125	06/15/94	3	U	ug/L
W125	12/01/94	0.005		ug/L	W125	12/01/94	3	U	ug/L
W125	06/07/95	0.004		ug/L	W125	06/07/95	3	U	ug/L
W125	11/07/95	0.006	U	ug/L	W125	11/07/95	3	U	ug/L
W125	06/05/96	10	U	ug/L	W125	06/05/96	50	U	ug/L
W125	06/04/97	10	U	ug/L	W125	06/04/97	50	U	ug/L
W125	04/30/98	0.1	U	ug/L	W125	04/30/98	0.5	U	ug/L
W125	05/13/99	0.02	U	ug/L	W125	05/13/99	3	U	ug/L
W125	04/03/00	0.02	U	ug/L	W125	04/03/00	3	U	ug/L
W125	04/21/01	0.02	U	ug/L	W125	04/21/01	0.5	U	ug/L
W125	05/04/02	0.02	U	ug/L	W125	05/04/02	3	U	ug/L
W125	05/07/03	0.02	U	ug/L	W125	05/07/03	0.5	U	ug/L
W125	04/24/04	0.02	U	ug/L	W125	04/24/04	0.96	U	ug/L
W125	05/11/05	0.021	U	ug/L	W125	05/11/05	0.5	U	ug/L
W125	09/04/06	0.0065	U	ug/L	W125	09/04/06	0.13	U	ug/L
W125	05/09/07	0.0065	U	ug/L	W125	05/09/07	0.13	U	ug/L
W125	05/17/08	0.04	U	ug/L	W125	05/17/08	0.08	U	ug/L
W125	05/10/09	0.075		ug/L	W125	05/10/09	0.16	U	ug/L
W126	10/21/87	0.0078		ug/L	W126	10/21/87	6	U	ug/L
W126	01/19/88	0.004		ug/L	W126	01/19/88	6	U	ug/L
W126	06/29/88	0.0029		ug/L	W126	06/29/88	6	U	ug/L
W126	08/30/88	0.0037		ug/L	W126	08/30/88	6	U	ug/L
W126	12/15/88	0.019		ug/L	W126	12/15/88	6	U	ug/L
W126	05/09/89	0.013		ug/L	W126	05/09/89	6	U	ug/L
W126	06/27/89	0.0062		ug/L	W126	06/27/89	6	U	ug/L
W126	08/31/89	0.0026		ug/L	W126	08/31/89	6	U	ug/L
W126	12/13/89	0.0023		ug/L	W126	12/13/89	6	U	ug/L
W126	03/05/90	0.0033		ug/L	W126	03/05/90	6	U	ug/L
W126	06/28/90	0.0029		ug/L	W126	06/28/90	6	U	ug/L
W126	06/18/91	0.004	U	ug/L	W126	06/18/91	6	U	ug/L
W126	12/18/91	0.0049		ug/L	W126	12/18/91	6	U	ug/L
W126	05/27/92	0.004	U	ug/L	W126	05/27/92	6	U	ug/L
W126	12/10/92	0.004	U	ug/L	W126	12/10/92	6	U	ug/L
W126	06/03/93	0.00436		ug/L	W126	06/03/93	6	U	ug/L
W126	11/02/93	0.00653		ug/L	W126	11/02/93	6	U	ug/L
W126	06/15/94	0.005		ug/L	W126	06/15/94	3	U	ug/L
W126	12/01/94	0.5	U	ug/L	W126	12/01/94	3	U	ug/L
W126	06/07/95	0.009		ug/L	W126	06/07/95	3	U	ug/L
W126	07/28/95	0.003	U	ug/L					
W126	11/07/95	0.012	U	ug/L	W126	11/07/95	3	U	ug/L
W126	06/05/96	10	U	ug/L	W126	06/05/96	50	U	ug/L
W126	06/04/97	10	U	ug/L	W126	06/04/97	50	U	ug/L
W126	04/30/98	0.1	U	ug/L	W126	04/30/98	5	U	ug/L

**Appendix D - Data Summary Table  
Naphthalene and Pentachlorophenol - Trend Analysis  
St. Regis Paper Company Site**

StationID	Date	Naphthalene			StationID	Date	Pentachlorophenol		
		Conc	Qualifier	Units			Conc	Qualifier	Units
W126	05/13/99	0.02	U	ug/L					
W126	04/03/00	0.02	U	ug/L	W126	04/03/00	3	U ug/L	
W126	04/21/01	0.02	U	ug/L	W126	04/21/01	0.5	U ug/L	
W126	05/04/02	0.02	U	ug/L	W126	05/04/02	2.9	U ug/L	
W126	05/07/03	0.02	U	ug/L	W126	05/07/03	0.5	U ug/L	
W126	04/24/04	0.02	U	ug/L	W126	04/24/04	0.96	U ug/L	
W126	05/10/05	0.021	U	ug/L	W126	05/10/05	0.5	U ug/L	
W126	09/03/06	0.0066	j	ug/L	W126	09/03/06	0.13	U ug/L	
W126	05/09/07	0.0068	U	ug/L	W126	05/09/07	0.13	U ug/L	
W126	05/17/08	0.077	U	ug/L	W126	05/17/08	0.08	U ug/L	
W126	05/10/09	0.072		ug/L	W126	05/10/09	0.16	U ug/L	
W127	10/20/87	0.0065		ug/L	W127	10/20/87	6	U ug/L	
W127	01/19/88	0.0041		ug/L	W127	01/19/88	6	U ug/L	
W127	06/29/88	0.0039		ug/L	W127	06/29/88	6	U ug/L	
W127	08/30/88	0.0031		ug/L	W127	08/30/88	6	U ug/L	
W127	12/15/88	0.023		ug/L	W127	12/15/88	6	U ug/L	
W127	03/28/89	0.0027		ug/L	W127	03/28/89	30	U ug/L	
W127	06/27/89	0.0032		ug/L	W127	06/27/89	6	U ug/L	
W127	08/31/89	0.0059		ug/L	W127	08/31/89	6	U ug/L	
W127	12/13/89	0.0022		ug/L	W127	12/13/89	6	U ug/L	
W127	03/05/90	0.0039		ug/L	W127	03/05/90	6	U ug/L	
W127	06/28/90	0.0032		ug/L	W127	06/28/90	6	U ug/L	
W127	06/18/91	0.004		ug/L	W127	06/18/91	6	U ug/L	
W127	12/18/91	0.0042		ug/L	W127	12/18/91	6	U ug/L	
W127	05/27/92	0.004	U	ug/L	W127	05/27/92	6	U ug/L	
W127	05/13/99	0.02	U	ug/L	W127	05/13/99	3	U ug/L	
W127	10/06/99	0.02	U	ug/L	W127	10/06/99	3	U ug/L	
W127	04/03/00	0.02	U	ug/L	W127	04/03/00	3	U ug/L	
W127	04/21/01	0.02	U	ug/L	W127	04/21/01	0.5	U ug/L	
W127	05/04/02	0.02	U	ug/L	W127	05/04/02	2.9	U ug/L	
W127	05/13/03	0.02	U	ug/L	W127	05/13/03	0.5	U ug/L	
W127	04/24/04	0.02	U	ug/L	W127	04/24/04	0.97	U ug/L	
W127	05/10/05	0.022	U	ug/L	W127	05/10/05	0.5	U ug/L	
W127	09/04/06	0.0065	U	ug/L	W127	09/04/06	0.13	U ug/L	
W127	05/09/07	0.0077	U	ug/L	W127	05/09/07	1.8	ug/L	
W127	08/24/07	0.0042	U	ug/L	W127	08/24/07	0.08	U ug/L	
W127	05/17/08	0.049	U	ug/L	W127	05/17/08	0.08	U ug/L	
W127	05/11/09	0.042		ug/L	W127	05/11/09	0.16	U ug/L	
W128	10/21/87	0.0077		ug/L	W128	10/21/87	6	U ug/L	
W128	01/19/88	0.0045		ug/L	W128	01/19/88	6	U ug/L	
W128	06/29/88	0.0027		ug/L	W128	06/29/88	6	U ug/L	
W128	08/30/88	0.0035		ug/L	W128	08/30/88	6	U ug/L	
W128	12/15/88	0.027		ug/L	W128	12/15/88	6	U ug/L	
W128	03/28/89	0.0026		ug/L	W128	03/28/89	30	U ug/L	
W128	06/27/89	0.0028		ug/L	W128	06/27/89	6	U ug/L	
W128	08/31/89	0.0031		ug/L	W128	08/31/89	6	U ug/L	
W128	12/13/89	0.0019		ug/L	W128	12/13/89	6	U ug/L	
W128	03/05/90	0.0049		ug/L	W128	03/05/90	6	U ug/L	
W128	06/28/90	0.0035		ug/L	W128	06/28/90	6	U ug/L	
W128	06/18/91	0.004	U	ug/L	W128	06/18/91	6	U ug/L	
W128	12/18/91	0.007		ug/L	W128	12/18/91	6	U ug/L	
W128	05/27/92	0.004	U	ug/L	W128	05/27/92	6	U ug/L	

**Appendix D - Data Summary Table**  
**Naphthalene and Pentachlorophenol - Trend Analysis**  
**St. Regis Paper Company Site**

StationID	Date	Naphthalene			StationID	Date	Pentachlorophenol		
		Conc	Qualifier	Units			Conc	Qualifier	Units
W128	12/10/92	0.004	U	ug/L	W128	12/10/92	6	U	ug/L
W128	06/03/93	0.00414		ug/L	W128	06/03/93	6	U	ug/L
W128	11/02/93	0.00759		ug/L	W128	11/02/93	6	U	ug/L
W128	06/15/94	0.018		ug/L	W128	06/15/94	3	U	ug/L
W128	08/24/94	0.006		ug/L					
W128	12/01/94	0.004		ug/L	W128	12/01/94	3	U	ug/L
W128	06/07/95	0.003		ug/L	W128	06/07/95	3	U	ug/L
W128	11/07/95	0.012	U	ug/L	W128	11/07/95	3	U	ug/L
W128	06/05/96	10	U	ug/L	W128	06/05/96	50	U	ug/L
W128	06/04/97	10	U	ug/L	W128	06/04/97	50	U	ug/L
W128	04/30/98	0.1	U	ug/L	W128	04/30/98	0.5	U	ug/L
W128	05/13/99	0.02	U	ug/L	W128	05/13/99	3	U	ug/L
W128	04/03/00	0.02	U	ug/L	W128	04/03/00	3	U	ug/L
W128	04/21/01	0.02	U	ug/L	W128	04/21/01	0.5	U	ug/L
W128	05/04/02	0.02	U	ug/L	W128	05/04/02	3	U	ug/L
W128	05/07/03	0.02	U	ug/L	W128	05/07/03	0.5	U	ug/L
W128	04/24/04	0.02	U	ug/L	W128	04/24/04	0.98	U	ug/L
W128	05/10/05	0.022	U	ug/L	W128	05/10/05	0.5	U	ug/L
W128	09/03/06	0.0065	U	ug/L	W128	09/03/06	0.13	U	ug/L
W128	05/09/07	0.0066	U	ug/L	W128	05/09/07	0.13	U	ug/L
W128	05/17/08	0.092	U	ug/L	W128	05/17/08	0.08	U	ug/L
W128	05/11/09	0.028	U	ug/L	W128	05/11/09	0.16	U	ug/L
W129	08/27/92	0.012		ug/L	W129	08/27/92	6	U	ug/L
W129	12/10/92	0.004	U	ug/L	W129	12/10/92	6	U	ug/L
W129	06/03/93	0.00407		ug/L	W129	06/03/93	6	U	ug/L
W129	11/02/93	0.00518		ug/L	W129	11/02/93	6	U	ug/L
W129	06/15/94	0.003		ug/L	W129	06/15/94	3	U	ug/L
W129	12/01/94	0.004		ug/L	W129	12/01/94	3	U	ug/L
W129	06/07/95	0.003		ug/L	W129	06/07/95	3	U	ug/L
W129	11/09/95	0.03	U	ug/L	W129	11/09/95	3	U	ug/L
W129	06/05/96	10	U	ug/L	W129	06/05/96	50	U	ug/L
W129	06/04/97	10	U	ug/L	W129	06/04/97	50	U	ug/L
W129	04/30/98	0.1	U	ug/L	W129	04/30/98	0.5	U	ug/L
W129	05/13/99	0.02	U	ug/L	W129	05/13/99	3	U	ug/L
W129	04/03/00	0.02	U	ug/L	W129	04/03/00	3	U	ug/L
W129	04/21/01	0.019	U	ug/L	W129	04/21/01	0.5	U	ug/L
W129	05/04/02	0.021	U	ug/L	W129	05/04/02	3.1	U	ug/L
W129	05/07/03	0.02	U	ug/L	W129	05/07/03	0.5	U	ug/L
W129	04/24/04	0.02	U	ug/L	W129	04/24/04	0.99	U	ug/L
W129	05/11/05	0.021	U	ug/L	W129	05/11/05	0.5	U	ug/L
W129	09/03/06	0.01	j	ug/L	W129	09/03/06	0.13	U	ug/L
W129	05/09/07	0.0066	U	ug/L	W129	05/09/07	0.13	U	ug/L
W129	05/17/08	0.027	U	ug/L	W129	05/17/08	0.08	U	ug/L
W129	05/11/09	0.033		ug/L	W129	05/11/09	0.16	U	ug/L
W130	08/27/92	0.004	U	ug/L	W130	08/27/92	6	U	ug/L
W130	12/10/92	0.004	U	ug/L	W130	12/10/92	6	U	ug/L
W130	02/09/93	0.004	U	ug/L					
W130	06/03/93	0.008	U	ug/L	W130	06/03/93	6	U	ug/L
W130	11/02/93	0.0057		ug/L	W130	11/02/93	6	U	ug/L
W130	06/15/94	0.004		ug/L	W130	06/15/94	3	U	ug/L
W130	12/01/94	0.005		ug/L	W130	12/01/94	3	U	ug/L
W130	06/07/95	0.003		ug/L	W130	06/07/95	3	U	ug/L

**Appendix D - Data Summary Table  
Naphthalene and Pentachlorophenol - Trend Analysis  
St. Regis Paper Company Site**

StationID	Date	Naphthalene			StationID	Date	Pentachlorophenol		
		Conc	Qualifier	Units			Conc	Qualifier	Units
W130	11/09/95	0.03	U	ug/L	W130	11/09/95	3	U	ug/L
W130	06/05/96	10	U	ug/L	W130	06/05/96	50	U	ug/L
W130	06/04/97	10	U	ug/L	W130	06/04/97	50	U	ug/L
W130	04/30/98	0.1	U	ug/L	W130	04/30/98	5	U	ug/L
W130	05/13/99	0.02	U	ug/L	W130	05/13/99	3	U	ug/L
W130	04/03/00	0.02	U	ug/L	W130	04/03/00	3	U	ug/L
W130	04/21/01	0.02	U	ug/L	W130	04/21/01	0.5	U	ug/L
W130	05/04/02	0.02	U	ug/L	W130	05/04/02	3	U	ug/L
W130	05/07/03	0.02	U	ug/L	W130	05/07/03	0.5	U	ug/L
W130	04/24/04	0.02	U	ug/L	W130	04/24/04	0.98	U	ug/L
W130	05/10/05	0.022	U	ug/L	W130	05/10/05	0.5	U	ug/L
W130	09/03/06	0.0078	j	ug/L	W130	09/03/06	0.13	U	ug/L
W130	05/09/07	0.0088	U	ug/L	W130	05/09/07	0.13	U	ug/L
W130	05/17/08	0.086	U	ug/L	W130	05/17/08	0.08	U	ug/L
W130	05/10/09	0.11		ug/L	W130	05/10/09	0.16	U	ug/L
W231									
W324	11/12/09	0.03		ug/L	W324	11/12/09	0.16	U	ug/L
W329	11/12/09	0.032		ug/L	W329	11/12/09	0.16	U	ug/L
W330	11/12/09	0.048		ug/L	W330	11/12/09	0.16	U	ug/L
W2106	08/22/85	1500		ug/L	W2106	08/22/85	19,000		ug/L
W2106	10/10/01	1500		ug/L	W2106	10/10/01	2,600	J	ug/L
W2106	09/16/06	2600		ug/L	W2106	09/16/06	56,000	h	ug/L
W2106	09/16/06	1700		ug/L	W2106	09/16/06	60,000	D	ug/L
W2106	05/17/07	0.98	j	ug/L	W2106	05/17/07	22,000		ug/L
W2106	05/17/07	1.2	j	ug/L	W2106	05/17/07	22,000		ug/L
W2106	05/27/08	120	*	ug/L	W2106	05/27/08	16,000		ug/L
W2106	05/19/09	11		ug/L	W2106	05/19/09	11,000		ug/L
W2127	06/25/87	0.0038		ug/L	W2127	06/25/87	6	U	ug/L
W2127	06/30/88	0.0074		ug/L	W2127	06/30/88	6	U	ug/L
W2127	06/28/89	0.073		ug/L	W2127	06/28/89	6	U	ug/L
W2127	06/28/90	0.0019		ug/L	W2127	06/28/90	6	U	ug/L
W2127	06/19/91	0.13		ug/L	W2127	06/19/91	6	U	ug/L
W2127	05/27/92	0.004	U	ug/L	W2127	05/27/92	6	U	ug/L
W2127	07/22/93	0.00882		ug/L	W2127	06/02/93	6	U	ug/L
W2127	06/15/94	0.03	U	ug/L	W2127	06/15/94	3	U	ug/L
W2127	06/06/95	0.003		ug/L	W2127	06/06/95	3	U	ug/L
W2127	06/04/96	10	U	ug/L	W2127	06/04/96	50	U	ug/L
W2127	06/05/97	10	U	ug/L	W2127	06/05/97	50	U	ug/L
W2127	04/29/98	0.1	U	ug/L	W2127	04/29/98	5	U	ug/L
W2127	05/17/99	0.02	U	ug/L	W2127	05/17/99	3	U	ug/L
W2127	04/05/00	0.02	U	ug/L	W2127	04/05/00	3	U	ug/L
W2127	04/20/01	0.02	U	ug/L	W2127	04/20/01	0.5	U	ug/L
W2127	10/16/01	5	U	ug/L	W2127	10/16/01	5	U	ug/L
W2127	05/03/02	0.02	U	ug/L	W2127	05/03/02	2.9	U	ug/L
W2127	05/04/03	0.02	U	ug/L	W2127	05/04/03	0.5	U	ug/L
W2127	04/26/04	0.02	U	ug/L	W2127	04/26/04	0.96	U	ug/L
W2127	05/15/05	0.02	U	ug/L	W2127	05/15/05	0.5	U	ug/L
W2127	09/05/06	0.012	U	ug/L	W2127	09/05/06	0.13	U	ug/L

**Appendix D - Data Summary Table**  
**Naphthalene and Pentachlorophenol - Trend Analysis**  
**St. Regis Paper Company Site**

StationID	Date	Naphthalene			StationID	Date	Pentachlorophenol		
		Conc	Qualifier	Units			Conc	Qualifier	Units
W2127	05/10/07	0.0069	U	ug/L	W2127	05/10/07	0.13	U	ug/L
W2127	05/21/08	0.04		ug/L	W2127	05/21/08	0.08	U	ug/L
W2127	05/14/09	0.0061	U	ug/L	W2127	05/14/09	0.16	U	ug/L
W2128	05/06/86	1200		ug/L	W2128	05/06/86	1700		ug/L
W2128	04/27/87	1600		ug/L	W2128	04/27/87	330		ug/L
W2128	06/23/87	6	U	ug/L	W2128	06/23/87	3400		ug/L
W2128	06/30/88	6	U	ug/L	W2128	06/30/88	2400		ug/L
W2128	06/28/89	1200		ug/L	W2128	06/28/89	1200		ug/L
W2128	06/28/90	10	U	ug/L	W2128	06/28/90	190		ug/L
W2128	06/19/91	10	U	ug/L	W2128	06/19/91	99		ug/L
W2128	05/27/92	10	U	ug/L	W2128	05/27/92	10	U	ug/L
W2128	07/22/93	1.06		ug/L	W2128	06/02/93	130		ug/L
W2128	06/15/94	0.12	U	ug/L	W2128	06/15/94	38		ug/L
W2128	06/06/95	13		ug/L	W2128	06/06/95	120		ug/L
W2128	06/05/97	96		ug/L	W2128	06/05/97	79		ug/L
W2128	05/17/99	23		ug/L	W2128	05/17/99	3.7		ug/L
W2128	04/05/00	23		ug/L	W2128	04/05/00	4		ug/L
W2128	04/20/01	49		ug/L	W2128	04/20/01	48		ug/L
W2128	05/03/02	43		ug/L	W2128	05/03/02	2.9	U	ug/L
W2128	05/04/03	25		ug/L	W2128	05/04/03	25		ug/L
W2128	10/07/04	1.8		ug/L	W2128	10/07/04	5.5		ug/L
W2128	05/15/05	6.1		ug/L	W2128	05/15/05	6.4		ug/L
W2128	09/05/06	13		ug/L	W2128	09/05/06	24		ug/L
W2128	12/05/06	0.01	U	ug/L	W2128	12/05/06	6.5		ug/L
W2128	05/15/07	0.014	U	ug/L	W2128	05/15/07	5.1		ug/L
W2128	08/23/07	6.5		ug/L	W2128	08/23/07	4.1		ug/L
W2128	10/30/07	1.7		ug/L	W2128	10/30/07	3		ug/L
W2128	05/28/08	1.3		ug/L	W2128	05/28/08	5.9		ug/L
W2128	08/22/08	0.39	U	ug/L	W2128	08/22/08	5.5		ug/L
W2128	05/19/09	4.2		ug/L	W2128	05/19/09	5.6		ug/L
W2128	08/25/09	1.8		ug/L	W2128	08/25/09	5.0		ug/L
W2128	11/10/09	4.9		ug/L	W2128	11/10/09	5.0		ug/L
W2129	06/25/87	0.012		ug/L	W2129	06/25/87	9.1		ug/L
W2129	06/30/88	0.0045		ug/L	W2129	06/30/88	6	U	ug/L
W2129	06/28/89	10	U	ug/L	W2129	06/28/89	10	U	ug/L
W2129	06/28/90	0.0028		ug/L	W2129	06/28/90	6	U	ug/L
W2129	06/19/91	0.0047		ug/L	W2129	06/19/91	6	U	ug/L
W2129	05/27/92	0.005		ug/L	W2129	05/27/92	6	U	ug/L
W2129	07/22/93	0.0146		ug/L	W2129	06/02/93	6	U	ug/L
W2129	06/15/94	0.004		ug/L	W2129	06/15/94	3	U	ug/L
W2129	06/06/95	0.004		ug/L	W2129	06/06/95	3	U	ug/L
W2129	06/04/96	10	U	ug/L	W2129	06/04/96	50	U	ug/L
W2129	06/05/97	10	U	ug/L	W2129	06/05/97	50	U	ug/L
W2129	04/29/98	0.1	U	ug/L	W2129	04/29/98	5	U	ug/L
W2129	05/17/99	0.02	U	ug/L	W2129	05/17/99	3	U	ug/L
W2129	04/05/00	0.02	U	ug/L	W2129	04/05/00	3	U	ug/L
W2129	04/20/01	0.02	U	ug/L	W2129	04/20/01	1.5		ug/L
W2129	10/12/01	5	U	ug/L	W2129	10/12/01	5	U	ug/L
W2129	05/03/02	0.034		ug/L	W2129	05/03/02	0.5	U	ug/L
W2129	05/04/03	0.02	U	ug/L	W2129	05/04/03	0.5	U	ug/L
W2129	10/07/04	0.02	U	ug/L	W2129	10/07/04	0.5	U	ug/L
W2129	05/15/05	0.02	U	ug/L	W2129	05/15/05	0.5	U	ug/L

**Appendix D - Data Summary Table**  
**Naphthalene and Pentachlorophenol - Trend Analysis**  
**St. Regis Paper Company Site**

StationID	Date	Naphthalene			StationID	Date	Pentachlorophenol		
		Conc	Qualifier	Units			Conc	Qualifier	Units
W2129	09/04/06	0.0074	j	ug/L	W2129	09/04/06	0.13	U	ug/L
W2129	05/10/07	0.0068	U	ug/L	W2129	05/10/07	0.13	U	ug/L
W2129	05/21/08	0.03		ug/L	W2129	05/21/08	0.08	U	ug/L
W2129	05/16/09	0.011	U	ug/L	W2129	05/16/09	0.16	U	ug/L
W2134	07/02/86	0.015	U	ug/L	W2134	07/02/86	470		ug/L
W2134	12/18/86	0.6	U	ug/L	W2134	12/18/86	1600		ug/L
W2134	04/27/87	5.2	U	ug/L	W2134	04/27/87	17		ug/L
W2134	06/26/87	6	U	ug/L	W2134	06/26/87	11000		ug/L
W2134	06/30/88	6	U	ug/L	W2134	06/30/88	4600		ug/L
W2134	06/29/89	0.013		ug/L	W2134	06/29/89	74		ug/L
W2134	06/28/90	10	U	ug/L	W2134	06/28/90	10	U	ug/L
W2134	06/20/91	10	U	ug/L	W2134	06/20/91	10	U	ug/L
W2134	05/28/92	10	U	ug/L	W2134	05/28/92	10	U	ug/L
W2134	07/22/93	0.0199		ug/L	W2134	06/02/93	6	U	ug/L
W2134	06/15/94	0.06	U	ug/L	W2134	06/15/94	3	U	ug/L
W2134	06/06/95	0.004		ug/L	W2134	06/06/95	3	U	ug/L
W2134	06/05/97	10	U	ug/L	W2134	06/05/97	50	U	ug/L
W2134	05/15/99	0.02	U	ug/L	W2134	05/15/99	3	U	ug/L
W2134	04/26/01	0.019	U	ug/L	W2134	04/26/01	0.5	U	ug/L
W2134	05/06/03	0.02	U	ug/L	W2134	05/06/03	0.5	U	ug/L
W2134	05/06/03	0.02	U	ug/L	W2134	05/06/03	0.5	U	ug/L
W2134	05/14/05	0.021	U	ug/L	W2134	05/14/05	0.5	U	ug/L
W2134	09/09/06	0.0065	U	ug/L	W2134	09/09/06	0.13	U	ug/L
W2134	05/09/07	0.0065	U	ug/L	W2134	05/09/07	0.13	U	ug/L
W2134	05/20/08	0.0094	U	ug/L	W2134	05/20/08	0.08	U	ug/L
W2135	12/18/86	0.11		ug/L	W2135	12/18/86	6	U	ug/L
W2135	06/23/87	0.017		ug/L	W2135	06/23/87	6	U	ug/L
W2135	06/30/88	0.009		ug/L	W2135	06/30/88	6	U	ug/L
W2135	06/29/89	0.0036		ug/L	W2135	06/29/89	6	U	ug/L
W2135	06/28/90	0.0021		ug/L	W2135	06/28/90	6	U	ug/L
W2135	06/20/91	0.008	U	ug/L	W2135	06/20/91	6	U	ug/L
W2135	05/28/92	0.0048		ug/L	W2135	05/28/92	6	U	ug/L
W2135	07/22/93	0.00847		ug/L	W2135	06/03/93	6	U	ug/L
W2135	06/15/94	0.06	U	ug/L	W2135	06/15/94	3	U	ug/L
W2135	06/06/95	0.003	U	ug/L	W2135	06/06/95	3	U	ug/L
W2135	06/04/96	10	U	ug/L	W2135	06/04/96	50	U	ug/L
W2135	06/05/97	10	U	ug/L	W2135	06/05/97	50	U	ug/L
W2135	04/29/98	0.1	U	ug/L	W2135	04/29/98	5	U	ug/L
W2135	05/15/99	0.02	U	ug/L					
W2135	04/05/00	0.02	U	ug/L	W2135	04/05/00	3	U	ug/L
W2135	04/26/01	0.019	U	ug/L	W2135	04/26/01	0.5	U	ug/L
W2135	10/10/01	5	U	ug/L	W2135	10/10/01	5	U	ug/L
W2135	10/10/01	5	U	ug/L	W2135	10/10/01	5	U	ug/L
W2135	05/05/02	0.046		ug/L	W2135	10/10/01	5	U	ug/L
W2135	05/08/03	0.02	U	ug/L	W2135	05/05/02	3.2	U	ug/L
W2135	04/24/04	0.02	U	ug/L	W2135	05/08/03	0.5	U	ug/L
W2135	05/14/05	0.021	U	ug/L	W2135	04/24/04	0.96	U	ug/L
W2135	09/11/06	0.017	U	ug/L	W2135	05/14/05	0.5	U	ug/L
W2135	05/12/07	0.0079	j	ug/L	W2135	09/11/06	0.13	U	ug/L
W2135	05/20/08	0.022	U	ug/L	W2135	05/12/07	0.13	U	ug/L
W2135	05/13/09	0.0049	U	ug/L	W2135	05/20/08	0.08	U	ug/L
W2135					W2135	05/13/09	0.16	U	ug/L

**Appendix D - Data Summary Table  
Naphthalene and Pentachlorophenol - Trend Analysis  
St. Regis Paper Company Site**

StationID	Date	Naphthalene			StationID	Date	Pentachlorophenol		
		Conc	Qualifier	Units			Conc	Qualifier	Units
W2140	05/17/09	210		ug/L	W2140	05/17/09	2700		ug/L
W2228	05/28/08	0.37	U	ug/L	W2228	05/28/08	2.5	U	ug/L
W2228	05/19/09	0.021	U	ug/L	W2228	05/19/09	0.36	J	ug/L
W2233	09/14/06	0.0071	U	ug/L	W2233	09/14/06	0.13	U	ug/L
W2233	12/07/06	0.13	U	ug/L	W2233	12/07/06	0.13	U	ug/L
W2233	02/27/07	0.0094	j	ug/L	W2233	02/27/07	0.13	U	ug/L
W2233	05/13/07	0.0065	U	ug/L	W2233	05/13/07	0.13	U	ug/L
W2233	08/23/07	0.015	U	ug/L	W2233	08/23/07	0.08	U	ug/L
W2233	10/30/07	0.034	U	ug/L	W2233	10/30/07	0.08	U	ug/L
W2233	03/27/08	0.078	U	ug/L	W2233	03/27/08	0.08	U	ug/L
W2233	05/20/08	0.032	U	ug/L	W2233	05/20/08	0.08	U	ug/L
W2233	08/22/08	0.075	U	ug/L	W2233	08/22/08	0.08	U	ug/L
W2233	11/19/08	0.025	U	ug/L	W2233	11/19/08	0.08	U	ug/L
W2233	02/18/09	0.039		ug/L	W2233	02/18/09	0.16	U	ug/L
W2233	05/16/09	0.0098	U	ug/L	W2233	05/16/09	0.16	U	ug/L
W2233	08/25/09	0.019	U	ug/L	W2233	08/25/09	0.16	U	ug/L
W2233	11/10/09	0.072	h	ug/L	W2233	11/10/09	0.16	U	ug/L
W2234	02/25/87	0.068		ug/L	W2234	02/25/87	6	U	ug/L
W2234	03/09/87	0.6	U	ug/L	W2234	03/09/87	0.6	U	ug/L
W2234	06/25/87	0.022		ug/L	W2234	06/25/87	6	U	ug/L
W2234	06/30/88	0.056		ug/L	W2234	06/30/88	6	U	ug/L
W2234	06/29/89	0.11		ug/L	W2234	06/29/89	6	U	ug/L
W2234	06/20/91	0.0045		ug/L	W2234	06/20/91	6	U	ug/L
W2234	05/28/92	10	U	ug/L	W2234	05/28/92	10	U	ug/L
W2234	12/10/92	10	U	ug/L	W2234	12/10/92	10	U	ug/L
W2234	07/22/93	0.096	U	ug/L	W2234	06/02/93	6	U	ug/L
W2234	11/02/93	0.0271		ug/L	W2234	11/02/93	6	U	ug/L
W2234	06/15/94	0.06	U	ug/L	W2234	06/15/94	3	U	ug/L
W2234	12/01/94	0.014		ug/L	W2234	12/01/94	3	U	ug/L
W2234	06/06/95	0.004		ug/L	W2234	06/06/95	3	U	ug/L
W2234	06/04/96	10	U	ug/L	W2234	06/04/96	50	U	ug/L
W2234	06/05/97	10	U	ug/L	W2234	06/05/97	50	U	ug/L
W2234	04/29/98	0.1	U	ug/L	W2234	04/29/98	5	U	ug/L
W2234	05/15/99	0.02	U	ug/L	W2234	05/15/99	3	U	ug/L
W2234	04/05/00	0.02	U	ug/L	W2234	04/05/00	3	U	ug/L
W2234	04/26/01	0.019	U	ug/L	W2234	04/26/01	0.5	U	ug/L
W2234	05/03/02	0.02	U	ug/L	W2234	05/03/02	3	U	ug/L
W2234	05/06/03	0.02	U	ug/L	W2234	05/06/03	0.5	U	ug/L
W2234	05/06/03	0.02	U	ug/L	W2234	05/06/03	0.5	U	ug/L
W2234	04/25/04	0.02	U	ug/L	W2234	04/25/04	0.98	U	ug/L
W2234	04/25/04	0.02	U	ug/L	W2234	04/25/04	0.98	U	ug/L
W2234	05/14/05	0.021	U	ug/L	W2234	05/14/05	0.5	U	ug/L
W2234	05/14/05	0.021	U	ug/L	W2234	05/14/05	0.5	U	ug/L
W2234	09/09/06	0.0065	U	ug/L	W2234	09/09/06	0.13	U	ug/L
W2234	09/09/06	0.0065	U	ug/L	W2234	09/09/06	0.13	U	ug/L
W2234	05/09/07	0.0066	U	ug/L	W2234	05/09/07	0.13	U	ug/L
W2234	05/09/07	0.0065	U	ug/L	W2234	05/09/07	0.13	U	ug/L
W2234	05/09/07	0.0065	U	ug/L	W2234	05/09/07	0.13	U	ug/L
W2234	05/09/07	0.0065	U	ug/L	W2234	05/09/07	0.13	U	ug/L
W2234	05/20/08	0.015	U	ug/L	W2234	05/20/08	0.08	U	ug/L
W2234	05/14/09	0.011	U	ug/L	W2234	05/14/09	0.16	U	ug/L

**Appendix D - Data Summary Table**  
**Naphthalene and Pentachlorophenol - Trend Analysis**  
**St. Regis Paper Company Site**

StationID	Date	Naphthalene			StationID	Date	Pentachlorophenol		
		Conc	Qualifier	Units			Conc	Qualifier	Units
W2236	09/19/06	0.011	U	ug/L	W2236	09/19/06	0.13	U	ug/L
W2236	12/07/06	0.011	U	ug/L	W2236	12/07/06	0.13	U	ug/L
W2236	12/07/06	0.01	U	ug/L	W2236	12/07/06	0.13	U	ug/L
W2236	02/27/07	0.0065	U	ug/L	W2236	02/27/07	0.13	U	ug/L
W2236	05/13/07	0.17		ug/L	W2236	05/13/07	1.1		ug/L
W2236	08/24/07	0.0069	U	ug/L	W2236	08/24/07	0.08	U	ug/L
W2236	10/31/07	0.0069	U	ug/L	W2236	08/24/07	0.08	U	ug/L
W2236	10/31/07	0.0083	U	ug/L	W2236	10/31/07	0.08	U	ug/L
W2236	03/28/08	0.0038	U	ug/L	W2236	03/28/08	0.08	U	ug/L
W2236	05/22/08	0.031	U	ug/L	W2236	05/22/08	0.08	U	ug/L
W2236	08/23/08	0.017	U	ug/L	W2236	08/23/08	0.08	U	ug/L
W2236	11/20/08	0.0046	U	ug/L	W2236	11/20/08	0.08	U	ug/L
W2236	02/19/09	0.003	U	ug/L	W2236	02/19/09	0.16	U	ug/L
W2236	05/16/09	0.042		ug/L	W2236	05/16/09	0.16	U	ug/L
W2236	08/26/09	0.0059	U	ug/L	W2236	08/26/09	0.16	U	ug/L
W2236	11/11/09	0.011	J	ug/L	W2236	11/11/09	0.16	U	ug/L
W2237R	05/17/09	0.076	U	ug/L	W2237R	05/17/09	0.34	J	ug/L
W2238	05/28/08	99		ug/L	W2238	05/28/08	3.4	J	ug/L
W2238	05/17/09	180		ug/L	W2238	05/17/09	6.2		ug/L
W2239	05/17/09	0.035	U	ug/L	W2139	05/17/09	0.16	U	ug/L
W2301	06/25/87	0.012		ug/L	W2301	12/17/86	6	U	ug/L
W2301	12/08/87	0.051		ug/L	W2301	06/25/87	6	U	ug/L
W2301	06/30/88	0.0098		ug/L	W2301	12/08/87	6	U	ug/L
W2301	12/15/88	0.21		ug/L	W2301	06/30/88	6	U	ug/L
W2301	03/28/89	0.018		ug/L	W2301	12/15/88	6	U	ug/L
W2301	06/29/89	0.04		ug/L	W2301	06/29/89	6	U	ug/L
W2301	12/14/89	0.038	U	ug/L	W2301	12/14/89	6	U	ug/L
W2301	06/28/90	0.0082		ug/L	W2301	06/28/90	6	U	ug/L
W2301	12/04/90	0.046		ug/L	W2301	12/04/90	6	U	ug/L
W2301	06/20/91	0.004		ug/L	W2301	06/20/91	6	U	ug/L
W2301	12/17/91	0.014		ug/L	W2301	12/17/91	6	U	ug/L
W2301	05/28/92	0.0062		ug/L	W2301	05/28/92	6	U	ug/L
W2301	07/22/93	0.0135		ug/L	W2301	06/03/93	6	U	ug/L
W2301	06/15/94	10	U	ug/L	W2301	06/15/94	5	U	ug/L
W2301	06/07/95	0.01		ug/L	W2301	06/07/95	3	U	ug/L
W2301	06/04/97	10	U	ug/L	W2301	06/04/97	50	U	ug/L
W2301	05/15/99	0.03		ug/L	W2301	05/15/99	3	U	ug/L
W2301	04/26/01	0.058		ug/L	W2301	04/26/01	0.5	U	ug/L
W2301	10/11/01	5	U	ug/L	W2301	10/11/01	5	U	ug/L
W2301	05/08/03	0.13		ug/L	W2301	05/08/03	0.5	U	ug/L
W2301	05/11/05	0.12		ug/L	W2301	05/11/05	0.5	U	ug/L
W2301	09/14/06	0.0065	U	ug/L	W2301	09/14/06	0.2	j	ug/L
W2301	05/12/07	0.0099	j	ug/L	W2301	05/12/07	0.13	U	ug/L
W2301	05/22/08	0.035		ug/L	W2301	05/22/08	0.08	U	ug/L
W2325	06/25/87	0.011		ug/L	W2325	12/17/86	6	U	ug/L
					W2325	06/25/87	6	U	ug/L

**Appendix D - Data Summary Table  
Naphthalene and Pentachlorophenol - Trend Analysis  
St. Regis Paper Company Site**

StationID	Date	Naphthalene			StationID	Date	Pentachlorophenol		
		Conc	Qualifier	Units			Conc	Qualifier	Units
W2325	12/08/87	0.056		ug/L	W2325	12/08/87	6 U	ug/L	
W2325	06/30/88	0.007		ug/L	W2325	06/30/88	6 U	ug/L	
W2325	12/15/88	0.044		ug/L	W2325	12/15/88	6 U	ug/L	
W2325	03/28/89	0.022		ug/L					
W2325	06/29/89	0.021		ug/L	W2325	06/29/89	6 U	ug/L	
W2325	12/14/89	0.031		ug/L	W2325	12/14/89	6 U	ug/L	
W2325	06/28/90	0.0099		ug/L	W2325	06/28/90	6 U	ug/L	
W2325	12/04/90	0.0062		ug/L	W2325	12/04/90	6 U	ug/L	
					W2325	06/20/91	6 U	ug/L	
W2325	12/17/91	0.0094		ug/L	W2325	12/17/91	6 U	ug/L	
W2325	05/28/92	0.009		ug/L	W2325	05/28/92	6 U	ug/L	
					W2325	06/03/93	6 U	ug/L	
W2325	07/22/93	0.0113		ug/L					
W2325	06/15/94	0.292		ug/L	W2325	06/15/94	3 U	ug/L	
W2325	06/05/95	0.004		ug/L	W2325	06/05/95	3 U	ug/L	
W2325	06/05/97	10 U		ug/L	W2325	06/05/97	50 U	ug/L	
W2325	05/18/99	0.02 U		ug/L	W2325	05/18/99	3 U	ug/L	
W2325	04/26/01	0.019 U		ug/L	W2325	04/26/01	0.5 U	ug/L	
W2325	05/05/03	0.02 U		ug/L	W2325	05/05/03	0.5 U	ug/L	
W2325	05/11/05	0.021 U		ug/L	W2325	05/11/05	0.5 U	ug/L	
W2325	09/10/06	0.015 U		ug/L	W2325	09/10/06	0.13 U	ug/L	
W2325	05/07/07	0.0077 U		ug/L	W2325	05/07/07	0.13 U	ug/L	
W2325	05/21/08	0.02		ug/L	W2325	05/21/08	0.08 U	ug/L	
W2326	06/24/87	0.013		ug/L	W2326	06/24/87	6 U	ug/L	
W2326	12/08/87	0.041		ug/L	W2326	12/08/87	6 U	ug/L	
W2326	06/30/88	0.0071		ug/L	W2326	06/30/88	6 U	ug/L	
W2326	12/15/88	0.24		ug/L	W2326	12/15/88	6 U	ug/L	
W2326	03/28/89	0.034		ug/L					
W2326	06/29/89	0.017		ug/L	W2326	06/29/89	6 U	ug/L	
W2326	06/28/90	10 U		ug/L	W2326	06/28/90	10 U	ug/L	
W2326	06/20/91	10 U		ug/L	W2326	06/20/91	10 U	ug/L	
W2326	05/28/92	10		ug/L	W2326	05/28/92	10 U	ug/L	
W2326	08/27/92	10 U		ug/L	W2326	08/27/92	10 U	ug/L	
W2326	07/22/93	0.0194		ug/L	W2326	06/02/93	6 U	ug/L	
W2326	06/15/94	0.06 U		ug/L	W2326	06/15/94	3 U	ug/L	
W2326	06/07/95	0.014		ug/L	W2326	06/07/95	3 U	ug/L	
W2326	06/04/97	10 U		ug/L	W2326	06/04/97	50 U	ug/L	
W2326	05/15/99	0.07		ug/L	W2326	05/15/99	3 U	ug/L	
W2326	04/26/01	0.068		ug/L	W2326	04/26/01	0.5 U	ug/L	
W2326	10/11/01	5.1 UJ		ug/L	W2326	10/11/01	5.1 UJ	ug/L	
W2326	05/08/03	0.067		ug/L	W2326	05/08/03	0.5 U	ug/L	
W2326	05/11/05	0.25		ug/L	W2326	05/11/05	0.5 U	ug/L	
W2326	05/11/05	0.23		ug/L	W2326	05/11/05	0.5 U	ug/L	
W2326	09/09/06	0.011 U		ug/L	W2326	09/09/06	0.13 U	ug/L	
W2326	05/07/07	0.0065 U		ug/L	W2326	05/07/07	0.13 U	ug/L	
W2326	05/21/08	0.022		ug/L	W2326	05/21/08	0.08 U	ug/L	
W2329	06/15/94	0.006 U		ug/L	W2329	06/15/94	3 U	ug/L	
W2329	06/06/95	0.004		ug/L	W2329	06/06/95	3 U	ug/L	
W2329	06/05/97	10 U		ug/L	W2329	06/05/97	50 U	ug/L	
W2329	05/17/99	0.02 U		ug/L	W2329	05/17/99	3 U	ug/L	
W2329	04/20/01	0.02 U		ug/L	W2329	04/20/01	0.5 U	ug/L	
W2329	10/12/01	5 U		ug/L	W2329	10/12/01	2.7 J	ug/L	

**Appendix D - Data Summary Table**  
**Naphthalene and Pentachlorophenol - Trend Analysis**  
**St. Regis Paper Company Site**

StationID	Date	Naphthalene			StationID	Date	Pentachlorophenol		
		Conc	Qualifier	Units			Conc	Qualifier	Units
W2329	05/04/03	0.02	U	ug/L	W2329	05/04/03	0.5	U	ug/L
W2329	05/15/05	0.021	U	ug/L	W2329	05/15/05	0.5	U	ug/L
W2329	09/04/06	0.0065	U	ug/L	W2329	09/04/06	0.13	U	ug/L
W2329	05/13/07	0.014	U	ug/L	W2329	05/13/07	0.13	U	ug/L
W2329	05/21/08	0.015	j	ug/L	W2329	05/21/08	0.08	U	ug/L
W2333	12/17/86	0.0044		ug/L	W2333	12/17/86	6	U	ug/L
W2333	06/25/87	0.011		ug/L	W2333	06/25/87	6	U	ug/L
W2333	12/08/87	0.039		ug/L	W2333	12/08/87	6	U	ug/L
W2333	06/30/88	0.0028		ug/L	W2333	06/30/88	6	U	ug/L
W2333	12/15/88	0.23		ug/L	W2333	12/15/88	6	U	ug/L
W2333	03/28/89	0.03		ug/L	W2333	06/29/89	6	U	ug/L
W2333	06/29/89	0.0067		ug/L					
W2333	06/28/90	10	U	ug/L	W2333	06/28/90	10	U	ug/L
W2333	06/20/91	10	U	ug/L	W2333	06/20/91	10	U	ug/L
W2333	05/28/92	10	U	ug/L	W2333	05/28/92	10	U	ug/L
W2333	07/22/93	0.0123		ug/L	W2333	06/03/93	6	U	ug/L
W2333	06/15/94	0.15	U	ug/L	W2333	06/15/94	3	U	ug/L
W2333	06/05/95	0.004		ug/L	W2333	06/05/95	3	U	ug/L
W2333	06/05/97	10	U	ug/L	W2333	06/05/97	50	U	ug/L
W2333	05/17/99	0.02	U	ug/L	W2333	05/17/99	3	U	ug/L
W2333	04/26/01	0.019	U	ug/L	W2333	04/26/01	0.5	U	ug/L
W2333	10/11/01	5	U	ug/L	W2333	10/11/01	5	U	ug/L
W2333	05/08/03	0.02	U	ug/L	W2333	05/08/03	0.5	U	ug/L
W2333	05/11/05	0.022	U	ug/L	W2333	05/11/05	0.5	U	ug/L
W2333	09/09/06	0.0065	U	ug/L	W2333	09/09/06	0.13	U	ug/L
W2333	05/13/07	0.0065	U	ug/L	W2333	05/13/07	0.13	U	ug/L
W2333	05/20/08	0.017	U	ug/L	W2333	05/20/08	0.08	U	ug/L
W2335	07/02/86	0.092		ug/L	W2335	07/02/86	5	U	ug/L
W2335	12/18/86	0.021		ug/L	W2335	12/18/86	6	U	ug/L
W2335	06/26/87	0.0041		ug/L	W2335	06/26/87	6	U	ug/L
W2335	12/08/87	0.032		ug/L	W2335	12/08/87	6	U	ug/L
W2335	06/30/88	0.0058		ug/L	W2335	06/30/88	6	U	ug/L
W2335	12/15/88	0.068		ug/L	W2335	12/15/88	6	U	ug/L
W2335	03/28/89	0.032		ug/L					
W2335	06/29/89	0.011		ug/L	W2335	06/29/89	6	U	ug/L
W2335	12/14/89	0.016		ug/L	W2335	12/14/89	6	U	ug/L
W2335	06/28/90	0.0035		ug/L	W2335	06/28/90	6	U	ug/L
W2335	12/04/90	0.014		ug/L	W2335	12/04/90	6	U	ug/L
W2335	06/20/91	0.0082		ug/L	W2335	06/20/91	6	U	ug/L
W2335	12/17/91	0.013		ug/L	W2335	12/17/91	6	U	ug/L
W2335	05/28/92	0.0089		ug/L	W2335	05/28/92	6	U	ug/L
W2335	07/22/93	0.0141		ug/L	W2335	06/03/93	6	U	ug/L
W2335	06/15/94	0.03	U	ug/L	W2335	06/15/94	3	U	ug/L
W2335	06/07/95	0.005		ug/L	W2335	06/07/95	3	U	ug/L
W2335	06/05/96	10	U	ug/L	W2335	06/05/96	50	U	ug/L
W2335	06/05/97	10	U	ug/L	W2335	06/05/97	50	U	ug/L
W2335	04/30/98	0.1	U	ug/L	W2335	04/30/98	5	U	ug/L
W2335	05/15/99	0.04		ug/L	W2335	05/15/99	3	U	ug/L
W2335	04/05/00	0.02	U	ug/L	W2335	04/05/00	3	U	ug/L
W2335	04/26/01	0.022	U	ug/L	W2335	04/26/01	0.5	U	ug/L
W2335	10/17/01	5	U	ug/L	W2335	10/17/01	5	U	ug/L
W2335	05/05/02	0.02	U	ug/L	W2335	05/05/02	2.9	U	ug/L

**Appendix D - Data Summary Table  
Naphthalene and Pentachlorophenol - Trend Analysis  
St. Regis Paper Company Site**

StationID	Date	Naphthalene			StationID	Date	Pentachlorophenol		
		Conc	Qualifier	Units			Conc	Qualifier	Units
W2335	05/08/03	0.06		ug/L	W2335	05/08/03	0.5	U	ug/L
W2335	04/24/04	0.058		ug/L	W2335	04/24/04	0.96	U	ug/L
W2335	05/14/05	0.022	U	ug/L	W2335	05/14/05	0.5	U	ug/L
W2335	09/11/06	0.044	U	ug/L	W2335	09/11/06	0.13	U	ug/L
W2335	05/12/07	0.02	j	ug/L	W2335	05/12/07	0.13	U	ug/L
W2335	05/24/08	0.023	U	ug/L	W2335	05/24/08	0.08	U	ug/L
W2335	05/13/09	0.02	U	ug/L	W2335	05/13/09	0.16	U	ug/L
W2336	09/19/06	0.026	U	ug/L	W2336	09/19/06	0.14	j	ug/L
W2336	12/07/06	0.017	U	ug/L	W2336	12/07/06	0.13	U	ug/L
W2336	12/07/06	0.018	U	ug/L	W2336	12/07/06	0.13	U	ug/L
W2336	02/27/07	0.013	j	ug/L	W2336	02/27/07	0.13	U	ug/L
W2336	05/13/07	0.17		ug/L	W2336	05/13/07	0.13	U	ug/L
W2336	08/24/07	0.013	U	ug/L	W2336	08/24/07	0.08	U	ug/L
W2336	10/31/07	0.014	U	ug/L	W2336	10/31/07	0.08	U	ug/L
W2336	03/28/08	0.052	U	ug/L	W2336	03/28/08	0.08	U	ug/L
W2336	05/22/08	0.37	U	ug/L	W2336	05/22/08	0.08	U	ug/L
W2336	08/23/08	0.042		ug/L	W2336	08/23/08	0.08	U	ug/L
W2336	11/20/08	0.014	U	ug/L	W2336	11/20/08	0.08	U	ug/L
W2336	02/18/09	0.016	J	ug/L	W2336	02/18/09	0.16	U	ug/L
W2336	05/16/09	0.52		ug/L	W2336	05/16/09	0.24	J	ug/L
W2336	08/26/09	0.021	U	ug/L	W2336	08/26/09	0.16	U	ug/L
W2336	11/11/09	0.034		ug/L	W2336	11/11/09	0.16	U	ug/L
W2339	05/17/09	0.021	U	ug/L	W2239	05/17/09	0.16	U	ug/L
W401	09/10/87	6	U	ug/L	W401	01/27/87	2100		ug/L
W401	06/26/90	320		ug/L	W401	04/02/87	650		ug/L
W401	06/18/91	20	U	ug/L	W401	09/10/87	3000		ug/L
W401	05/26/92	31		ug/L	W401	05/16/88	2000		ug/L
W401	06/01/93	10	U	ug/L	W401	12/19/89	56		ug/L
W401	06/13/94	10	U	ug/L	W401	06/26/90	2500		ug/L
W401	06/07/95	20	U	ug/L	W401	12/04/90	1500		ug/L
W401	06/04/97	100	U	ug/L	W401	06/18/91	1600		ug/L
W401	05/14/99	10	U	ug/L	W401	12/17/91	3900		ug/L
W401	04/22/01	9.5	U	ug/L	W401	05/26/92	1500		ug/L
W401	05/09/03	10	U	ug/L	W401	06/01/93	970		ug/L
W401	05/08/05	0.4	U	ug/L	W401	06/13/94	2000		ug/L
W401	09/19/06	0.065	U	ug/L	W401	06/07/95	890		ug/L
W401	05/17/07	0.37	U	ug/L	W401	06/04/97	1000		ug/L
W401	05/29/08	0.37	Uh	ug/L	W401	06/04/97	1000		ug/L
W402	09/10/87	0.11		ug/L	W401	05/14/99	1200		ug/L
W402	06/26/90	26		ug/L	W401	04/22/01	1700		ug/L
					W401	05/09/03	1700		ug/L
					W401	05/08/05	2200		ug/L
					W401	09/19/06	1300	D	ug/L
					W401	05/17/07	1500		ug/L
					W401	05/29/08	1800	h	ug/L
					W402	01/27/87	1200		ug/L
					W402	04/02/87	1800		ug/L
					W402	09/10/87	1600		ug/L
					W402	05/16/88	1300		ug/L
					W402	12/19/89	1200		ug/L
					W402	06/26/90	1600		ug/L

**Appendix D - Data Summary Table  
Naphthalene and Pentachlorophenol - Trend Analysis  
St. Regis Paper Company Site**

StationID	Date	Naphthalene			StationID	Date	Pentachlorophenol		
		Conc	Qualifier	Units			Conc	Qualifier	Units
W402	06/18/91	50	U	ug/L	W402	12/04/90	700		ug/L
W402	05/26/92	10	U	ug/L	W402	12/17/91	1600		ug/L
W402	06/01/93	10	U	ug/L	W402	05/26/92	1100		ug/L
W402	06/13/94	9		ug/L	W402	06/01/93	810		ug/L
W402	06/07/95	56		ug/L	W402	06/13/94	2200		ug/L
W402	06/04/97	80	U	ug/L	W402	06/07/95	1200		ug/L
W402	05/14/99	10	U	ug/L	W402	06/04/97	950		ug/L
W402	04/22/01	9.7	U	ug/L	W402	05/14/99	1300		ug/L
W402	05/09/03	10	U	ug/L	W402	04/22/01	2100		ug/L
W402	05/09/03	10	U	ug/L	W402	05/09/03	260		ug/L
W402	05/09/03	10	U	ug/L	W402	05/09/03	290		ug/L
W402	05/09/03	10	U	ug/L	W402	05/09/03	250		ug/L
W402	05/08/05	2.3	U	ug/L	W402	05/08/05	950		ug/L
W402	09/19/06	0.0082	U	ug/L	W402	09/19/06	88	D	ug/L
W402	05/17/07	0.37	U	ug/L	W402	05/17/07	960		ug/L
W402	05/29/08	0.37	Uh	ug/L	W402	05/29/08	1300	h	ug/L
W403	09/10/87	140		ug/L	W403	01/27/87	22000		ug/L
W403	06/26/90	26		ug/L	W403	04/02/87	14000		ug/L
W403	05/26/92	10	U	ug/L	W403	09/10/87	9300		ug/L
W403	06/01/93	10	U	ug/L	W403	05/16/88	2200		ug/L
W403	06/13/94	10	U	ug/L	W403	12/19/89	1500		ug/L
W403	06/07/95	10	U	ug/L	W403	06/26/90	1100		ug/L
W403	06/04/97	60	U	ug/L	W403	12/04/90	790		ug/L
W403	05/14/99	10	U	ug/L	W403	06/18/91	1200		ug/L
W403	04/21/01	9.6	U	ug/L	W403	12/17/91	1200		ug/L
W403	05/09/03	10	U	ug/L	W403	05/26/92	560		ug/L
W403	05/08/05	0.93	b	ug/L	W403	06/01/93	300		ug/L
W403	09/19/06	0.033	U	ug/L	W403	06/13/94	320		ug/L
W403	05/17/07	0.37	U	ug/L	W403	06/07/95	190		ug/L
W403	05/29/08	0.37	Uh	ug/L	W403	06/04/97	560		ug/L
W405	09/10/87	260		ug/L	W405	05/14/99	640		ug/L
W405	06/18/91	61		ug/L	W405	04/21/01	530		ug/L
W405	05/26/92	240		ug/L	W405	05/09/03	400		ug/L
W405	06/01/93	750		ug/L	W405	05/08/05	820		ug/L
W405	06/13/94	1000		ug/L	W405	09/19/06	450	D	ug/L
W405	06/07/95	1400		ug/L	W405	05/17/07	450		ug/L
W405	06/04/97	1000		ug/L	W405	05/29/08	460	jh	ug/L
W405	09/10/87	260		ug/L	W405	01/27/87	9400		ug/L
W405	06/18/91	61		ug/L	W405	04/02/87	10000		ug/L
W405	05/26/92	240		ug/L	W405	09/10/87	8000		ug/L
W405	06/01/93	750		ug/L	W405	05/16/88	4500		ug/L
W405	06/13/94	1000		ug/L	W405	11/20/89	170		ug/L
W405	06/07/95	1400		ug/L	W405	12/19/89	7000		ug/L
W405	06/04/97	1000		ug/L	W405	12/04/90	5500		ug/L
W405	09/10/87	260		ug/L	W405	12/17/91	1500		ug/L
W405	06/18/91	61		ug/L	W405	05/26/92	840		ug/L
W405	05/26/92	240		ug/L	W405	06/01/93	6000		ug/L
W405	06/01/93	750		ug/L	W405	06/13/94	6500		ug/L
W405	06/13/94	1000		ug/L	W405	06/07/95	5300		ug/L
W405	06/07/95	1400		ug/L	W405	06/04/97	5300		ug/L
W405	06/04/97	1000		ug/L	W405	06/04/97	5300		ug/L

**Appendix D - Data Summary Table**  
**Naphthalene and Pentachlorophenol - Trend Analysis**  
**St. Regis Paper Company Site**

StationID	Date	Naphthalene			StationID	Date	Pentachlorophenol		
		Conc	Qualifier	Units			Conc	Qualifier	Units
W405	05/14/99	1100		ug/L	W405	05/14/99	7000		ug/L
W405	04/22/01	1900		ug/L	W405	04/22/01	7400		ug/L
W405	05/09/03	1300		ug/L	W405	05/09/03	7500		ug/L
W405	05/08/05	1500		ug/L	W405	05/08/05	9900		ug/L
W405	09/19/06	0.65	U	ug/L	W405	09/19/06	7700	D	ug/L
W405	05/17/07	1600		ug/L	W405	05/17/07	7200		ug/L
W405	05/29/08	2400		ug/L	W405	05/29/08	11000		ug/L
W406	09/10/87	0.031		ug/L	W406	01/27/87	38		ug/L
W406	06/18/91	10	U	ug/L	W406	04/02/87	47		ug/L
W406	06/01/93	10	U	ug/L	W406	09/10/87	6	U	ug/L
W406	06/13/94	10	U	ug/L	W406	05/16/88	12		ug/L
W406	06/07/95	10	U	ug/L	W406	12/19/89	5	U	ug/L
W406	06/04/97	10		ug/L	W406	06/18/91	10	U	ug/L
W406	05/14/99	10	U	ug/L	W406	06/01/93	5	U	ug/L
W406	04/22/01	9.5	U	ug/L	W406	06/13/94	5	U	ug/L
W406	05/09/03	0.12		ug/L	W406	06/07/95	5	U	ug/L
W406	05/08/05	0.39	b	ug/L	W406	06/04/97	58		ug/L
W406	09/19/06	0.17		ug/L	W406	06/04/97	58		ug/L
W406	05/17/07	0.08	U	ug/L	W406	05/14/99	50	U	ug/L
W406	05/29/08	0.37	Uh	ug/L	W406	04/22/01	24	U	ug/L
W407	09/10/87	0.02		ug/L	W406	05/09/03	0.5	U	ug/L
W407	06/01/93	10	U	ug/L	W406	05/08/05	0.5	U	ug/L
W407	06/13/94	10	U	ug/L	W406	09/19/06	0.13	U	ug/L
W407	06/07/95	10	U	ug/L	W406	05/17/07	0.13	U	ug/L
W407	06/04/97	10	U	ug/L	W406	05/29/08	2.5	Uh	ug/L
W407	05/14/99	10	U	ug/L	W406	05/29/08	0.08	Uh	ug/L
W407	04/22/01	9.6	U	ug/L	W407	01/27/87	5	U	ug/L
W407	05/09/03	0.02	U	ug/L	W407	04/02/87	5	U	ug/L
W407	05/08/05	0.02	U	ug/L	W407	09/10/87	6	U	ug/L
W407	09/19/06	0.025	U	ug/L	W407	05/16/88	5	U	ug/L
W407	05/17/07	0.0065	U	ug/L	W407	06/01/93	5	U	ug/L
W407	05/29/08	0.0058	Uh	ug/L	W407	06/13/94	5	U	ug/L
W408	09/10/87	610		ug/L	W407	06/07/95	5	U	ug/L
W408	06/26/90	780		ug/L	W407	06/04/97	50	U	ug/L
W408	06/18/91	710		ug/L	W407	05/14/99	50	U	ug/L
W408	05/26/92	640		ug/L	W407	04/22/01	24	U	ug/L
W408	06/01/93	450		ug/L	W407	05/09/03	0.5	U	ug/L
					W407	05/08/05	0.5	U	ug/L
					W407	09/19/06	0.13	U	ug/L
					W407	05/17/07	0.13	U	ug/L
					W407	05/29/08	0.08	Uh	ug/L
					W408	01/27/87	9400		ug/L
					W408	04/02/87	10000		ug/L
					W408	09/10/87	9900		ug/L
					W408	05/16/88	5000		ug/L
					W408	12/19/89	5600		ug/L
					W408	06/26/90	6200		ug/L
					W408	12/04/90	4800		ug/L
					W408	06/18/91	5300		ug/L
					W408	12/17/91	9100		ug/L
					W408	05/26/92	3800		ug/L
					W408	06/01/93	4400		ug/L

**Appendix D - Data Summary Table  
Naphthalene and Pentachlorophenol - Trend Analysis  
St. Regis Paper Company Site**

StationID	Date	Naphthalene			StationID	Date	Pentachlorophenol		
		Conc	Qualifier	Units			Conc	Qualifier	Units
W408	06/13/94	350		ug/L	W408	06/13/94	3100		ug/L
W408	06/07/95	500		ug/L	W408	06/07/95	1300		ug/L
W408	06/05/96	270		ug/L	W408	06/05/96	2000		ug/L
W408	06/04/97	650		ug/L	W408	06/04/97	2000		ug/L
W408	05/01/98	240		ug/L	W408	05/01/98	1200		ug/L
W408	05/14/99	150		ug/L	W408	05/14/99	1800		ug/L
W408	04/22/01	110		ug/L	W408	04/22/01	1200		ug/L
W408	05/02/02	76		ug/L	W408	05/02/02	430		ug/L
W408	05/02/02	80		ug/L	W408	05/02/02	440		ug/L
W408	05/09/03	48		ug/L	W408	05/09/03	700		ug/L
W408	04/26/04	44		ug/L	W408	04/26/04	450		ug/L
W408	05/08/05	76		ug/L	W408	05/08/05	820		ug/L
W408	05/08/05	78		ug/L	W408	05/08/05	870		ug/L
W408	09/19/06	23		ug/L	W408	09/19/06	660 D		ug/L
W408	05/17/07	32		ug/L	W408	05/17/07	520		ug/L
W408	05/29/08	1.6 j		ug/L	W408	05/29/08	84 *		ug/L
W409	09/10/87	1900		ug/L	W409	01/27/87	15000		ug/L
W409	06/26/90	1600		ug/L	W409	04/02/87	15000		ug/L
W409	06/18/91	1400		ug/L	W409	09/10/87	21000		ug/L
W409	05/26/92	810		ug/L	W409	05/16/88	18000		ug/L
W409	06/01/93	550		ug/L	W409	12/19/89	8900		ug/L
W409	06/13/94	400		ug/L	W409	06/26/90	8700		ug/L
W409	06/07/95	55		ug/L	W409	12/04/90	5800		ug/L
W409	06/04/97	2200		ug/L	W409	06/18/91	6600		ug/L
W409	05/14/99	190		ug/L	W409	12/17/91	11000		ug/L
W409	04/22/01	440		ug/L	W409	05/26/92	6200		ug/L
W409	05/09/03	85		ug/L	W409	06/01/93	4800		ug/L
W409	05/08/05	130		ug/L	W409	06/13/94	3700		ug/L
W409	09/19/06	320		ug/L	W409	06/07/95	2100		ug/L
W409	05/17/07	220		ug/L	W409	06/04/97	5000		ug/L
W409	05/28/08	160		ug/L	W409	05/14/99	2900		ug/L
W410	09/10/87	0.24		ug/L	W410	04/22/01	3600		ug/L
W410	06/26/90	6		ug/L	W410	05/09/03	1700		ug/L
W410	06/18/91	10 U		ug/L	W410	05/08/05	1900		ug/L
W410	05/26/92	10 U		ug/L	W410	09/19/06	2100 D		ug/L
W410	06/01/93	10 U		ug/L	W410	05/17/07	1800		ug/L
W410	06/13/94	10 U		ug/L	W410	05/28/08	2000		ug/L
W410	06/07/95	10 U		ug/L	W410	01/27/87	160		ug/L
W410	05/14/99	10 U		ug/L	W410	04/02/87	420		ug/L
W410	04/21/01	9.6 U		ug/L	W410	09/10/87	6 U		ug/L
					W410	05/16/88	280		ug/L
					W410	11/20/89	12000		ug/L
					W410	12/19/89	130		ug/L
					W410	06/26/90	80		ug/L
					W410	12/04/90	39		ug/L
					W410	06/18/91	10 U		ug/L
					W410	05/26/92	5 U		ug/L
					W410	06/01/93	5 U		ug/L
					W410	06/13/94	7		ug/L
					W410	06/07/95	14		ug/L
					W410	05/14/99	50 U		ug/L
					W410	04/21/01	50		ug/L

**Appendix D - Data Summary Table**  
**Naphthalene and Pentachlorophenol - Trend Analysis**  
**St. Regis Paper Company Site**

StationID	Date	Naphthalene			StationID	Date	Pentachlorophenol		
		Conc	Qualifier	Units			Conc	Qualifier	Units
W410	04/22/01	9.6	U	ug/L	W410	04/22/01	47		ug/L
W410	05/09/03	10	U	ug/L	W410	05/09/03	3.1		ug/L
W410	05/08/05	0.87	b	ug/L	W410	05/08/05	20	U	ug/L
W410	09/19/06	0.084		ug/L	W410	09/19/06	36	D	ug/L
W410	05/17/07	0.07	U	ug/L	W410	05/17/07	30		ug/L
W410	05/29/08	0.66	h	ug/L	W410	05/29/08	110	h	ug/L
W411	10/20/87	1.9	U	ug/L	W411	10/20/87	690		ug/L
W411	05/15/99	0.03		ug/L	W411	05/15/99	350		ug/L
W411	04/25/01	0.02	U	ug/L	W411	04/25/01	14		ug/L
W411	05/08/03	0.02	U	ug/L	W411	05/08/03	12		ug/L
W411	05/14/05	0.18	U	ug/L	W411	05/14/05	17		ug/L
W411	09/18/06	0.021	U	ug/L	W411	09/18/06	31		ug/L
W411	05/15/07	0.039	U	ug/L	W411	05/15/07	11		ug/L
W411	05/25/08	0.02	U	ug/L	W411	05/25/08	15		ug/L
W2401	12/21/88	11000		ug/L	W2401	12/21/88	16000		ug/L
W2401	06/02/93	890		ug/L	W2401	06/02/93	4200		ug/L
W2401	06/15/94	1920		ug/L	W2401	06/15/94	3800		ug/L
W2401	06/07/95	550		ug/L	W2401	06/07/95	1800		ug/L
W2401	06/05/97	1800		ug/L	W2401	06/05/97	5700		ug/L
W2401	05/14/99	10	U	ug/L	W2401	05/14/99	4400		ug/L
W2401	05/07/01	9.6	U	ug/L	W2401	05/07/01	3200		ug/L
W2401	05/09/03	2400		ug/L	W2401	05/09/03	3100		ug/L
W2401	05/09/05	2800		ug/L	W2401	05/09/05	2900		ug/L
W2401	09/19/06	11000		ug/L	W2401	09/19/06	4200	D	ug/L
W2401	05/17/07	18000		ug/L	W2401	05/17/07	4900		ug/L
W2401	05/29/08	13000	h	ug/L	W2401	05/29/08	4500	jh	ug/L
W2402	12/21/88	1700		ug/L	W2402	12/21/88	17000		ug/L
W2402	06/28/90	0.2		ug/L	W2402	12/19/89	2500		ug/L
W2402	06/20/91	30	U	ug/L	W2402	06/28/90	1100		ug/L
W2402	05/27/92	10	U	ug/L	W2402	12/04/90	700		ug/L
W2402	06/02/93	10	U	ug/L	W2402	06/20/91	720		ug/L
W2402	06/15/94	0.081		ug/L	W2402	12/17/91	820		ug/L
W2402	06/07/95	10	U	ug/L	W2402	05/27/92	580		ug/L
W2402	06/05/97	80	U	ug/L	W2402	06/02/93	450		ug/L
W2402	05/14/99	10	U	ug/L	W2402	06/15/94	280		ug/L
W2402	04/26/01	10	U	ug/L	W2402	06/07/95	220		ug/L
W2402	05/09/03	10	U	ug/L	W2402	06/05/97	1000		ug/L
W2402	05/09/05	0.4	U	ug/L	W2402	06/05/97	1400		ug/L
W2402	09/19/06	0.033	U	ug/L	W2402	05/14/99	340		ug/L
W2402	05/17/07	0.37	U	ug/L	W2402	04/26/01	340		ug/L
W2402	05/29/08	0.37	Uh	ug/L	W2402	05/09/03	0.5	U	ug/L
W2403	12/21/88	820		ug/L	W2402	05/09/05	220		ug/L
W2403	06/28/90	660		ug/L	W2402	09/19/06	370	D	ug/L
W2403	06/20/91	100	U	ug/L	W2402	05/17/07	250		ug/L
					W2402	05/29/08	110	h	ug/L
					W2403	12/21/88	6900		ug/L
					W2403	12/19/89	4500		ug/L
					W2403	06/28/90	3000		ug/L
					W2403	12/04/90	2600		ug/L
					W2403	06/20/91	3000		ug/L
					W2403	12/17/91	3800		ug/L

**Appendix D - Data Summary Table**  
**Naphthalene and Pentachlorophenol - Trend Analysis**  
**St. Regis Paper Company Site**

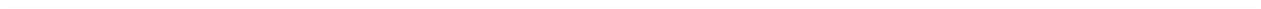
StationID	Date	Naphthalene			StationID	Date	Pentachlorophenol		
		Conc	Qualifier	Units			Conc	Qualifier	Units
W2403	05/27/92	720		ug/L	W2403	05/27/92	3400		ug/L
W2403	06/02/93	580		ug/L	W2403	06/02/93	2800		ug/L
W2403	06/15/94	880		ug/L	W2403	06/15/94	1900		ug/L
W2403	06/07/95	78		ug/L	W2403	06/07/95	1600		ug/L
W2403	06/05/97	300	U	ug/L	W2403	06/05/97	2200		ug/L
W2403	05/14/99	1300		ug/L	W2403	05/14/99	3500		ug/L
W2403	04/26/01	9.6	U	ug/L	W2403	04/26/01	3000		ug/L
W2403	05/09/03	1600		ug/L	W2403	05/09/03	1800		ug/L
W2403	05/09/05	3.6		ug/L	W2403	05/09/05	2100		ug/L
W2403	09/19/06	1600		ug/L	W2403	09/19/06	1700	D	ug/L
W2403	09/19/06	500		ug/L	W2403	09/19/06	1800	D	ug/L
W2403	05/17/07	1400		ug/L	W2403	05/17/07	2300		ug/L
W2403	05/29/08	1300	h	ug/L	W2403	05/29/08	2100	h	ug/L
FISH1	05/27/92	0.004	U	ug/L	FISH1	05/27/92	6	U	ug/L
FISH1	06/07/95	0.003	U	ug/L	FISH1	06/07/95	3	U	ug/L
FISH1	09/11/06	0.0065	U	ug/L	FISH1	09/11/06	0.13	U	ug/L
FISH1	05/15/07	0.0065	U	ug/L	FISH1	05/15/07	0.13	U	ug/L
FISH1	05/20/08	0.017	U	ug/L	FISH1	05/20/08	0.08	U	ug/L
FISH2	05/27/92	0.004	U	ug/L	FISH2	05/27/92	6	U	ug/L
FISH2	06/07/95	0.003	U	ug/L	FISH2	06/07/95	3	U	ug/L
FISH2	09/11/06	0.0065	U	ug/L	FISH2	09/11/06	0.13	U	ug/L
FISH2	05/15/07	0.0092	U	ug/L	FISH2	05/15/07	0.13	U	ug/L
FISH2	05/20/08	0.008	U	ug/L	FISH2	05/20/08	0.08	U	ug/L
FISH3	05/27/92	0.004	U	ug/L	FISH3	05/27/92	6	U	ug/L
FISH3	06/07/95	0.005	b	ug/L	FISH3	06/07/95	3	U	ug/L
FISH3	09/28/06	0.0065	U	ug/L	FISH3	09/28/06	0.13	U	ug/L
FISH3	05/15/07	0.022	U	ug/L	FISH3	05/15/07	0.13	U	ug/L
FISH3	05/20/08	0.0097	U	ug/L	FISH3	05/20/08	0.08	U	ug/L
FISH4	05/27/92	0.62		ug/L	FISH4	05/27/92	6	U	ug/L
FISH4	12/10/92	0.09		ug/L	FISH4	06/02/93	6	U	ug/L
FISH4	07/22/93	0.00958		ug/L	FISH4	02/24/94	6	U	ug/L
FISH4	02/24/94	0.666		ug/L	FISH4	06/15/94	3	U	ug/L
FISH4	06/15/94	1.11		ug/L	FISH4	12/01/94	3	U	ug/L
FISH4	12/01/94	0.012		ug/L	FISH4	06/07/95	3	U	ug/L
FISH4	06/07/95	2.6		ug/L	FISH4	11/07/95	3	U	ug/L
FISH4	11/07/95	0.006	U	ug/L	FISH4	06/05/97	50	U	ug/L
FISH4	06/05/97	3		ug/L	FISH4	05/01/98	0.5	U	ug/L
FISH4	05/01/98	0.2		ug/L	FISH4	05/17/99	3	U	ug/L
FISH4	05/17/99	0.32		ug/L	FISH4	04/04/00	0.5	U	ug/L
FISH4	04/04/00	0.03		ug/L	FISH4	04/24/01	0.5	U	ug/L
FISH4	04/24/01	0.019	U	ug/L	FISH4	10/17/01	0.029	U	ug/L
FISH4	10/17/01	5.1	U	ug/L	FISH4	05/06/02	0.5	Uh	ug/L
FISH4	05/06/02	0.02	U	ug/L	FISH4	05/07/03	0.5	U	ug/L
FISH4	05/07/03	0.02	U	ug/L	FISH4	04/27/04	0.95	U	ug/L
FISH4	04/27/04	0.019	U	ug/L	FISH4	05/09/05	0.5	U	ug/L
FISH4	05/09/05	0.02	U	ug/L	FISH4	09/11/06	0.13	U	ug/L
FISH4	09/11/06	0.0065	U	ug/L	FISH4	05/15/07	0.13	U	ug/L
FISH4	05/15/07	0.01	U	ug/L	FISH4	05/20/08	0.08	U	ug/L
FISH4	05/20/08	0.017	U	ug/L					

**Appendix D - Data Summary Table**  
**Naphthalene and Pentachlorophenol - Trend Analysis**  
**St. Regis Paper Company Site**

StationID	Date	Naphthalene			StationID	Date	Pentachlorophenol		
		Conc	Qualifier	Units			Conc	Qualifier	Units
FISH4	05/14/09	0.006	U	ug/L	FISH4	05/14/09	0.16	U	ug/L
FISH4	10/03/09	0.003	U	ug/L	FISH4	10/03/09	0.16	U	ug/L
FISH4	10/05/09	0.012	U	ug/L	FISH4	10/05/09	0.16	U	ug/L
FISH4	10/07/09	0.006	J	ug/L	FISH4	10/07/09	0.16	U	ug/L

## **Appendix E**

### **Monitoring Well Logs**



Client International Paper

Drill Contractor Boart Longyear

**LOG OF Boring W231**  
SHEET 1 OF 1

Project Name International Paper

Drill Method Rotasonic

Number 23/11-005

Drilling Started 7/9/09 Ended 7/9/09

Elevation 1331.2

Location Cass Lake, MN

Logged By REE

Total Depth 35.0

X Coordinate \_\_\_\_\_ Y Coordinate \_\_\_\_\_

DEPTH FEET	SAMP LENGTH & RECOVERY	SAMP NUMBER	%GR/SAV FINES	Discoloration- Odor- Sheen	Moisture	ASTM	LITHOLOGY	DESCRIPTION	WELL OR PIEZOMETER CONSTRUCTION DETAIL	ELEV. FEET
0-5	1	1	0/100/0	None	Moist			0-27': Sand, fine to medium-grained, some grass rootlets in top 3", dark yellowish-brown (10YR 4/6).	PRO. CASING Diameter: 6" Type: Steel Interval:	1330
5-10	2	2	5/95/0				Color changes to yellowish-brown (10YR 5/4).	RISER CASING Diameter: 2" Type: Black iron Interval: 0'-30'	1325 1320	
10-15	3	3				SP			GROUT Type: Neat Cement Interval: 0'-21'	1315
15-20	4	4							SEAL Type: Hydrated bentonite Pellets Interval: 21'-26'	1310
20-25									SANDPACK Type: Fine Sand and Standard Sand Interval: 26'-28' and 28-35.5'	1310
25-30									SCREEN Diameter: 2" Type: Stainless steel Interval: 30'-35'	1305
30-35			15/85/0		Wet			27-33.5': Sand with gravel, medium to coarse-grained sand, brown (10YR 4/3).		1300
								31' and 32': 2" clay layers, cohesive, plastic.		1300
			10/90/0					33.5-35': Sand with gravel, medium-grained, pale brown (10YR 6/3).		1295
								End of Boring - 35 feet		1285

ENVIRO LOG 5 (5/27/04) 2311005.GPJ BARR JAN06.GDT 9/9/09



**Barr Engineering Co.**  
4700 West 77th Street  
Minneapolis, MN 55435  
Telephone: 952-832-2600  
Fax: 952-832-2601

Remarks: Grain size sample: W-231 (7-17')

Additional data may have been collected in the field which is not included on this log.

Client International Paper

Drill Contractor Boart Longyear

# LOG OF Boring W324

SHEET 1 OF 1

Project Name International Paper

Drill Method Rotasonic

Number 23/11-005

Drilling Started 7/7/09 Ended 7/10/09

Elevation 1331.2

Location Cass Lake, MN

Logged By REE

Total Depth 45.0

X Coordinate \_\_\_\_\_ Y Coordinate \_\_\_\_\_

DEPTH FEET	SAMP LENGTH & RECOVERY	SAMP NUMBER	%GR/SAV FINES	Discoloration-Odor-Sheen	Moisture	ASTM	LITHOLOGY	DESCRIPTION	WELL OR PIEZOMETER CONSTRUCTION DETAIL	ELEV. FEET
0-5	5'	1	0/95/5					0-32': Sand, medium-grained, top 0.5' dark brown (10YR 3/3) to yellowish-brown (10YR 5/6).	OUTER CASING Diameter: 6" Type: Steel Interval: 0-35'	1330
5-10	5'	2	10/85/5						RISER CASING Diameter: 2" Type: Black iron Interval: 0'-40'	1325
10-15	5'								GROUT Type: Neat Cement Interval: 0'-33'	1320
15-20	5'	3	5/90/5			SP		Sand becomes fine to medium-grained, color changes to brown (10YR 5/3).	SEAL Type: Hydrated bentonite Pellets Interval: 33'-38'	1315
20-25	5'								SANDPACK Type: Standard Sand Interval: 38'-45.5'	1310
25-30	5'	4	5/5/90						SCREEN Diameter: 2" Type: Stainless steel Interval: 40'-45'	1305
30-35	5'		30/40/30			CL		32-33.5': Clay, cohesive, high plasticity, light olive brown (2.5Y 5/3).		1300
35-40	5'		0/95/5			SM/SC		33.5-36.5': Silty to clayey, gravelly sand, sand fine to coarse-grained, light olive brown (2.5Y 5/3).		1295
40-45	5'	5				SP		36.5-45': Sand, fine to medium-grained, yellowish-brown (10YR 5/8).		1290
45								End of Boring - 45 feet		1285

ENVIRO LOG 5 (5/27/04) 2311005.GPJ BARR JAN06.GDT 9/10/09



**Barr Engineering Co.**  
 4700 West 77th Street  
 Minneapolis, MN 55435  
 Telephone: 952-832-2600  
 Fax: 952-832-2601

Remarks: Grain size sample: W-324 37-40'.  
 Well is double cased.

Additional data may have been collected in the field which is not included on this log.

Client International Paper

Drill Contractor Boart Longyear

**LOG OF Boring W329**

SHEET 1 OF 2

Project Name International Paper

Drill Method Rotasonic

Number 23/11-005

Drilling Started 7/7/09 Ended 7/10/09

Elevation 1327.0

Location Cass Lake, MN

Logged By REE

Total Depth 85.0

X Coordinate \_\_\_\_\_ Y Coordinate \_\_\_\_\_

DEPTH FEET	SAMP LENGTH & RECOVERY	SAMP NUMBER	%GR/SAV FINES	Discoloration-Odor-Sheen	Moisture	ASTM	LITHOLOGY	DESCRIPTION	WELL OR PIEZOMETER CONSTRUCTION DETAIL	ELEV. FEET
0-5		1	0/95/5	None	Moist			0-30': Sand, medium grained, grass roots top 3", dark yellowish-brown (10YR 4/6).	OUTER CASING Diameter: 6" Type: Steel Interval: 0-35'	1325
5-10		2	10/85/5					Increased grain size and gravel content with depth, sand medium to coarse-grained, yellowish brown (10YR 5/4).	RISER CASING Diameter: 2" Type: Black iron Interval: 0'-80'	1320
10-15						SP			GROUT Type: Neat Cement Interval: 0'-70'	1315
15-20		3	5/90/5						SEAL Type: Hydrated bentonite Pellets Interval: 70'-74'	1310
20-25									SANDPACK Type: Fine Sand and Standard Sand Interval: 74'-76' and 76'-85.5'	1305
25-30					Wet				SCREEN Diameter: 2" Type: Stainless steel Interval: 80'-85'	1300
30-32		4	5/5/90			CL		30-32': Clay, cohesive, high plasticity, olive (5Y 5/3).		1295
32-36			10/30/60			CL		31': 1/2" fine grained sand lens. 32-36': Clay with varying sand content, high plasticity, cohesive, light brownish-gray (2.5Y 1/3).		1295
36-40		5	5/10/85 5/50/45			SC		36-40': Clayey sand, medium to coarse sand containing many 1-2" clay layers, clay high plasticity and cohesive, color grades from above light brownish-gray to gray (5Y 5/1).		1290
40-45			2/3/95					40-72': Clay with sand and gravel - content variable throughout section, high plasticity, stiff, gray, cobbles (3") at top of clay unit.		1285
45-85		6	5/10/85			CL		Sand and gravel content increases.		1280

(continued)



**Barr Engineering Co.**  
4700 West 77th Street  
Minneapolis, MN 55435  
Telephone: 952-832-2600  
Fax: 952-832-2601

Remarks: Well is double cased.

Additional data may have been collected in the field which is not included on this log.

# LOG OF Boring W329

SHEET 2 OF 2

Client International Paper Drill Contractor Boart Longyear  
 Project Name International Paper Drill Method Rotasonic  
 Number 23/11-005 Drilling Started 7/7/09 Ended 7/10/09  
 Location Cass Lake, MN Logged By REE

Elevation 1327.0  
 Total Depth 85.0

X Coordinate \_\_\_\_\_ Y Coordinate \_\_\_\_\_

DEPTH FEET	SAMP LENGTH & RECOVERY	SAMP NUMBER	%GR/SAV FINES	Discoloration-Odor-Sheen	Moisture	ASTM	LITHOLOGY	DESCRIPTION	WELL OR PIEZOMETER CONSTRUCTION DETAIL	ELEV. FEET
55		6	5/20/75					40-72': Clay with sand and gravel - content variable throughout section, high plasticity, stiff, gray, cobbles (3") at top of clay unit. <i>(continued)</i>	OUTER CASING Diameter: 6" Type: Steel Interval: 0'-35'	1275
60		7	5/10/85			CL			RISER CASING Diameter: 2" Type: Black iron Interval: 0'-80'	1270
65		8	10/15/75						GROUT Type: Neat Cement Interval: 0'-70'	1265
70			5/10/85						SEAL Type: Hydrated bentonite Pellets Interval: 70'-74'	1260
75		9	15/50/35			SC		72-76': Clayey sand with gravel, coarse grained sand, light brownish gray (2.5Y 6/2).	SANDPACK Type: Fine Sand and Standard Sand Interval: 74'-76' and 76'-85.5'	1255
80		10	5/90/5			SP		76-85': Sand, coarse-grained with gravel, olive gray (5Y 5/3).  Increased gravel content. Sand becomes fine grained and gravel content decreases.	SCREEN Diameter: 2" Type: Stainless steel Interval: 80'-85'	1250
85			20/65/15					End of Boring - 85 feet		1245
90			5/90/5							1240
95										1235
										1230

ENVIRO LOG 5 (5/27/04) 2311005.GPJ BARR JAN06.GDT 9/10/09

**BARR** Engineering Co.  
 4700 West 77th Street  
 Minneapolis, MN 55435  
 Telephone: 952-832-2600  
 Fax: 952-832-2601

Remarks: Well is double cased.

Additional data may have been collected in the field which is not included on this log.

Client International Paper

Drill Contractor Boart Longyear

**LOG OF Boring W330**

SHEET 1 OF 1

Project Name International Paper

Drill Method Rotasonic

Number 23/11-005

Drilling Started 7/8/09 Ended 7/14/09

Elevation 1331.8

Location Cass Lake, MN

Logged By REE

Total Depth 50.0

X Coordinate \_\_\_\_\_ Y Coordinate \_\_\_\_\_

DEPTH FEET	SAMP LENGTH & RECOVERY	SAMP NUMBER	%GR/SAV FINES	Discoloration- Odor- Sheen	Moisture	ASTM	LITHOLOGY	DESCRIPTION	WELL OR PIEZOMETER CONSTRUCTION DETAIL	ELEV. FEET
0-10		1	5/90/5	None	Moist			0-22': Sand, fine to medium grained, yellowish-brown (10YR 5/6).  1/2" clayey layer, cohesive	OUTER CASING Diameter: 6"  Type: Steel  Interval: 0-40'	1330
10-20		2				SP		Color changes to pale brown (10YR 6/3).	RISER CASING Diameter: 2"  Type: Black iron  Interval: 0'-44'	1320
20-22		3	5/95/0 5/85/10 10/85/5			SP-SM		20-22': Sand with silt, fine to medium-grained sand, brown (10YR 4/3).	GROUT Type: Neat Cement  Interval: 0'-38'	
22-36								22-36': Sand with gravel, medium to coarse-grained, clay stringers at 27' and 35', cohesive, high plasticity, brown (10YR 4/3).	SEAL Type: Hydrated bentonite Pellets  Interval: 38'-42.5'	1310
36-40		4	20/75/5		Wet	SP			SANDPACK Type: Standard Sand  Interval: 42.5'-50'	
40-44		5	15/15/70 5/95/0			CL		36-37.5': Sandy clay with gravel, moderate plasticity.	SCREEN Diameter: 2"  Type: Stainless steel  Interval: 44'-49'	1300
44-50		6	10/90/0			SP		37.5-50': Sand, fine to medium grained with gravel, light yellowish-brown (2.5Y 6/3) grading to brownish-yellow (10YR 6/6).  4" cobble.		1290
50								End of Boring - 50 feet		1280

ENVIRO LOG 5 (5/27/04) 2311005.GPJ BARR JAN06.GDT 9/10/09

**BARR** Barr Engineering Co.  
4700 West 77th Street  
Minneapolis, MN 55435  
Telephone: 952-832-2600  
Fax: 952-832-2601

Remarks: Grain size sample: W330 45-48'.  
Well is double cased.

Additional data may have been collected in the field which is not included on this log.

# LOG OF Boring W2140

Unique Well No. \_\_\_\_\_

SHEET 1 OF 1

Client International Paper

Drill Contractor MATRIX

Project Name International Paper

Drill Method Direct-push

Number 23/11-005

Drilling Started 2/23/09 Ended 2/23/09

Ground Surface Elevation 1305.11

Location Cass Lake, MN

Logged By JMA2

Top of Riser --

Total Depth 12.5

DEPTH FEET	SAMP. LENGTH & RECOVERY	SAMP. NUMBER	%GR/SA/ FINES	Headspace ppm	Discoloration-Odor-Sheen	Moisture	ASTM	LITHOLOGY	DESCRIPTION	WELL OR PIEZOMETER CONSTRUCTION DETAIL	ELEV. FEET
0-1'		1		0.5*	None	Frozen Wet			0-1': Mat of dead and decaying grass, reeds, roots and wood.	<p><b>PRO. CASING</b> Diameter: _____ Type: <b>None</b> Interval: _____</p> <p><b>RISER CASING</b> Diameter: <b>2"</b> Type: <b>Black iron</b> Interval: <b>2'-12'</b></p> <p><b>GROUT</b> Type: <b>None</b> Interval: _____</p> <p><b>SEAL</b> Type: <b>Bentonite</b> Interval: <b>0'-1.5'</b></p> <p><b>SANDPACK</b> Type: <b>Red Flint #40</b> Interval: <b>1.5'-12.5'</b></p> <p><b>SCREEN</b> Diameter: <b>2"</b> Type: <b>Stainless Steel</b> Interval: <b>2'-12'</b></p>	
1-9.5'							PT	1-9.5': Peat, brown and black.			
9.5-12.5'			0/99/1	2*			SP	9.5-12.5': Sand, medium grained, greenish gray (Gley 1 5/1).			1295
12.5'								End of Boring - 12.5 feet			1290

ENVIRO LOG 5 (5/27/04) 2311005.GPJ BARRLOG6\_28\_GDT 2/22/10



**Barr Engineering Co.**  
4700 W 77th St. Suite 200  
Minneapolis, MN 55435-4803  
Telephone: 952-832-2600  
Fax: 952-832-2601

Remarks:  
\* Headspace reading due to condensation caused by temperature change (cold to hot).  
Geology info from nearby boring NAPL-51 CB.

BGS = "below ground surface"  
Additional data may have been collected in the field which is not included on this log.

# LOG OF Boring W2237R

Unique Well No. \_\_\_\_\_

SHEET 1 OF 1

Client International Paper

Drill Contractor Boart Longyear

Project Name International Paper

Drill Method Rotasonic

Number 23/11-005

Drilling Started 3/2/09 Ended 3/3/09

Ground Surface Elevation 1304.82

Location Cass Lake, MN

Logged By HAW

Top of Riser --

Total Depth 105.0

DEPTH FEET	SAMP. LENGTH & RECOVERY	SAMP. NUMBER	%GR/SA/ FINES	Headspace ppm	Discoloration- Odor- Sheen	Moisture	ASTM	LITHOLOGY	DESCRIPTION	WELL OR PIEZOMETER CONSTRUCTION DETAIL	ELEV. FEET
0-80									No Samples from 0-80'.		1300
10										Type: <b>Steel</b> Interval:	1290
20										<b>RISER CASING</b> Diameter: <b>2"</b> Type: <b>Black iron</b> Interval: <b>0'-79.25'</b>	1280
30										<b>GROUT</b> Type: <b>Cement</b> Interval: <b>0'-77.5'</b>	1270
40										<b>SEAL</b> Type: <b>Fine Sand</b> Interval: <b>77.5'-78.5'</b>	1260
50										<b>SANDPACK</b> Type: <b>Red Flint #40</b> Interval: <b>78.5'-84.5'</b>	1250
60										<b>SCREEN</b> Diameter: <b>2"</b> Type: <b>Stainless Steel</b> Interval: <b>79.25'-84.25'</b>	1240
70											1230
80		1	5/90/5	1.2	None	Wet			80-92.5': Sand, fine to coarse-grained, grayish-brown, 0.5' thick clay layers present at 84 and 88'.		1220
90		2	60/40/0								1210
100		3	0/98/2						92.5-95': Gravel/cobbles with sand.		1210
100		4	40/60/0	2					95-104': Sand, medium to coarse-grained, grayish-brown.		1200
110			1/70/29	1					Grades to gravelly sand, medium to coarse-grained.		1200
									104-105': Silty sand with trace gravel, fine-grained, grayish brown. End of Boring - 105 feet		1190

ENVIRO LOG 5 (5/27/04) 2311005.GPJ BARRLOG6\_28.GDT 2/22/10



**Barr Engineering Co.**  
 4700 W 77th St. Suite 200  
 Minneapolis, MN 55435-4803  
 Telephone: 952-832-2600  
 Fax: 952-832-2601

**Remarks:**  
 Well W2237R placed in borehole separate from boring used for soil sampling.  
 See log W2237 for additional geologic information.  
 BGS = "below ground surface"  
 Additional data may have been collected in the field which is not included on this log.

# LOG OF BORING W2239

Unique Well No. \_\_\_\_\_

SHEET 1 OF 1

Client International Paper

Drill Contractor Boart Longyear

Project Name International Paper

Drill Method Rotasonic

Number 23/11-005

Drilling Started 3/5/09 Ended 3/5/09

Ground Surface Elevation 1304.67

Location Cass Lake, MN

Logged By HAW

Top of Riser --

Total Depth 37.0

DEPTH FEET	SAMP. LENGTH & RECOVERY	SAMP. NUMBER	%GR/SA/FINES	Headspace ppm	Discoloration-Odor-Sheen	Moisture	ASTM	LITHOLOGY	DESCRIPTION	WELL OR PIEZOMETER CONSTRUCTION DETAIL	ELEV. FEET
0-8'				0	None	Frozen			0-8': Peat, dark brown.	<b>PRO. CASING</b> Diameter: 6" Type: <b>Steel</b> Interval: <b>RISER CASING</b> Diameter: 2" Type: <b>Black iron</b> Interval: 0'-32' <b>GROUT</b> Type: <b>Cement</b> Interval: 0'-30' <b>SEAL</b> Type: <b>Fine Filter Sand</b> Interval: 30'-31' <b>SANDPACK</b> Type: <b>Red Flint #40</b> Interval: 31'-37' <b>SCREEN</b> Diameter: 2" Type: <b>Stainless steel</b> Interval: 32'-37'	1300
8-35'			0/99/1	0		Wet	PT		8-35': Sand, interlayered fine to medium-grained, medium-grained, and medium to coarse-grained layers, variable gravel content across layers, dark brown, becomes grayish-brown below 15'.		1295
			0/99/1	0							1290
			0/99/1	0	None	Wet	SP				1285
35-37'			5/94/1	0			SP		35-37': Sand, medium to coarse-grained, with trace gravel and trace fines, grayish brown. Several thin (0.2-0.3') clay layers or lenses are present at 2 to 5' intervals between sand layers. End of Boring - 37 feet		1275
				0							1270
				0							1265

ENVIRO LOG 5 (5/27/04) 2311005.GPJ BARRLOG6\_28.GDT 2/22/10

**BARR** Engineering Co.  
 4700 W 77th St. Suite 200  
 Minneapolis, MN 55435-4803  
 Telephone: 952-832-2600  
 Fax: 952-832-2601

Remarks:  
 Geology info from nearby boring NAPL-54 CB.

BGS = "below ground surface"  
 Additional data may have been collected in the field which is not included on this log.

# LOG OF BORING W2339

Unique Well No. \_\_\_\_\_

SHEET 1 OF 1

Client International Paper

Drill Contractor Boart Longyear

Project Name International Paper

Drill Method Rotasonic

Number 23/11-005

Drilling Started 3/4/09 Ended 3/5/09

Ground Surface Elevation 1304.64

Location Cass Lake, MN

Logged By HAW

Top of Riser --

Total Depth 105.0

DEPTH FEET	SAMP. LENGTH & RECOVERY	SAMP. NUMBER	%GR/SA/ FINES	Headspace ppm	Discoloration- Odor- Sheen	Moisture	ASTM	LITHOLOGY	DESCRIPTION	WELL OR PIEZOMETER CONSTRUCTION DETAIL	ELEV. FEET
0-8		1	0/99/1	0	None	Frozen Wet	PT		0-8': Peat, dark brown.	PRO. CASING Diameter: 6" Type: Steel	1300
8-35		2	0/99/1	0	None	Wet	SP		8-35': Sand, interlayered fine to medium-grained, medium-grained, and medium to coarse-grained layers, variable gravel content across layers, dark brown, becomes grayish-brown below 15'.	RISER CASING Diameter: 2" Type: Black iron	1290
35-55		3	0/99/1	0	None	Wet	SP		35-55': Sand, medium to coarse-grained, with trace gravel and trace fines, grayish brown. Several thin (0.2-0.3') clay layers or lenses are present at 2 to 5' intervals between sand layers.	GROUT Type: Cement	1280
55-58		4	5/94/1	0	None	Wet	SP		55-58': Sand, layered, fine-grained and medium-grained sand, little to no gravel or fines, grayish-brown.	SEAL Type: Fine Sand	1270
58-60		5	0/5/90 5/94/1 2/97/1	0	None	Wet	SP		58-60': 0.25' thick layer or clast of clay.	SCREEN Diameter: 2" Type: Stainless steel	1260
60-61		6	0/0/100 3/95/2 0/0/100	0	None	Wet	SP		60-61': 0.2' thick layer of clay with trace silt, soft, grayish brown to dark gray.		1250
61-63		7	0/0/100 5/94/1 2/97/1	0	None	Wet	SP		61-63': 0.3' thick layer of clay with trace silt, grayish brown.		1240
63-64		8	0/50/50 2/97/1 1/98/1	0	None	Wet	SP		63-64': 0.5' clayey sand, fine grained, trace fibrous organic material.		1230
64-65		9	0/99/1	0	None	Wet	SP		64-65': No recovery.		1220
65-67		10	0/99/1	0	None	Wet	SP		65-67': No recovery.		1210
67-70		11	0/99/1	0	None	Wet	SP		67-70': No recovery.		1200
70-75		12	0/99/1	0	None	Wet	SP		70-75': No recovery.		1190
75-88		13	0/99/1	0	None	Wet	SP		75-88': No recovery.		
88-91		14	0/99/1	1	None	Wet	ML		88-91': Sandy silt with gravel, dense, cohesive, greenish brown to olive, with layers of silty sand.		
91-93		15	10/40/50 to 10/50/40	1	None	Moist to Wet	SM		91-93': Silty sand with some gravel, fine to medium-grained, greenish brown to olive.		
93-105		16	5/60/35	1	None	Wet	SP		93-105': Sand, fine-grained to medium-grained, very uniform sand, loose, grayish-brown.		
105-100		17	0/99/1	1	None	Wet	SP		105-100': No recovery.		
100-110		18	0/99/1	1	None	Wet	SP		End of Boring - 105 feet		

ENVIRO LOG 5 (5/27/04) 2311005.GPJ BARRLOG6\_28\_GDT 2/22/10

**Barr Engineering Co.**  
 4700 W 77th St. Suite 200  
 Minneapolis, MN 55435-4803  
**BARR** Telephone: 952-832-2600  
 Fax: 952-832-2601

Remarks:  
 Geology info from nearby boring NAPL-54 CB.

BGS = "below ground surface"  
 Additional data may have been collected in the field which is not included on this log.

## **Appendix F**

### **Spent GAC Documentation**



Form designed for use on elite (12-pitch) typewriter.)

1. Generator ID Number MN1007897940		2. Page 1 of 1		3. Emergency Response Phone (800)485-3718		4. Manifest Tracking Number 002560632 FLE		
5. Generator's Name and Mailing Address International Paper Company 6200 Poplar Avenue Memphis, TN 38197 Generator's Phone: (626)-2204				Generator's Site Address (if different than mailing address) 2nd Street South and Central Avenue Cass Lake, MN 56633				
6. Transporter 1 Company Name Clean Harbors Environmental Services Inc				U.S. EPA ID Number MAD039322250				
7. Transporter 2 Company Name				U.S. EPA ID Number				
8. Designated Facility Name and Site Address Clean Harbors Canada Inc 4090 Teller Road RR#1 Corunna, ON N0W 1G0 Facility's Phone: (519)864-1021				U.S. EPA ID Number MIR000035204				
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))			10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. RQ, UN3077, WASTE ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S. (PENTACHLOROPHENOL), 9, PG III (F034)			No.	Type	EST 23,000 P		F034
	2.							
	3.							
	4.							
14. Special Handling Instructions and Additional Information 1. CH367050L XRC#171 Can. Manifest				CHES, EPA ID#MIR000014530, IN BUXTON MI, IS ACTING AS THE PRIMARY EXPORTER ON BEHALF OF THE GENERATOR				
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.								
Generator's/Offoror's Printed/Typed Name James A. Brown				Signature <i>James A. Brown</i>		Month Day Year 11 16 09		
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____								
17. Transporter Acknowledgment of Receipt of Materials								
Transporter 1 Printed/Typed Name Mark Harding				Signature <i>Mark Harding</i>		Month Day Year 11 16 09		
Transporter 2 Printed/Typed Name				Signature		Month Day Year		
18. Discrepancy								
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection								
18b. Alternate Facility (or Generator)				U.S. EPA ID Number				
18c. Signature of Alternate Facility (or Generator)								
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)								
1. H132		2.		3.		4.		
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a								
Printed/Typed Name				Signature		Month Day Year		

GENERATOR  
INT'L  
TRANSPORTER  
DESIGNATED FACILITY

Clean Harbors has the appropriate permits for and will accept the waste the generator is shipping.

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number <b>MND057597040</b>	2. Page 1 of <b>1</b>	3. Emergency Response Phone <b>(800) 483-3718</b>		4. Manifest Tracking Number <b>002560631 FLE</b>					
		5. Generator's Name and Mailing Address <b>International Paper Company 6400 Poplar Avenue Memphis, TN 38197</b> Generator's Phone: <b>(626) 2204</b>					Generator's Site Address (if different than mailing address) <b>2nd Street South and Central Avenue Cass Lake, MN 56633</b>				
6. Transporter 1 Company Name <b>Clean Harbors Environmental Services Inc</b>					U.S. EPA ID Number <b>MAD039322250</b>						
7. Transporter 2 Company Name					U.S. EPA ID Number						
8. Designated Facility Name and Site Address <b>Clean Harbors Canada Inc 4090 Telfer Road RR#1 Corunna, ON N0N 1G0</b> Facility's Phone: <b>(519) 864-1021</b>					U.S. EPA ID Number <b>MIR000035204</b>						
<b>GENERATOR</b>	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))			10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
					No.	Type					
	*	1. <b>PO, UN3077, WASTE ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S., (PENTACHLOROPHENOL), 9, PG III (F034)</b>			001	(M)	20000	P	F034		
		2.									
		3.									
	4.										
14. Special Handling Instructions and Additional Information <b>1. CER 670586 EPC# 171</b> <b>Canadian Manifest</b>					<b>CHES, EPA ID# MIR000014530, IN BURTON MN, IS ACTING AS THE PRIMARY EXPORTER ON BEHALF OF THE GENERATOR</b>						
15. <b>GENERATOR'S/OFFEROR'S CERTIFICATION:</b> I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.											
Generator's/Offor's Printed/Typed Name <b>Jamie Lidmore</b>					Signature <i>Jamie Lidmore</i>			Month <b>11</b>	Day <b>16</b>	Year <b>09</b>	
<b>TRANSPORTER</b>	16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____										
	Transporter signature (for exports only): _____										
17. Transporter Acknowledgment of Receipt of Materials											
Transporter 1 Printed/Typed Name <b>Bud Le BRASSEUR</b>					Signature <i>Bud Le Brasseur</i>			Month <b>11</b>	Day <b>16</b>	Year <b>09</b>	
Transporter 2 Printed/Typed Name					Signature			Month	Day	Year	
<b>DESIGNATED FACILITY</b>	18. Discrepancy										
	18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection										
	Manifest Reference Number: _____										
	18b. Alternate Facility (or Generator)					U.S. EPA ID Number					
	Facility's Phone: _____										
18c. Signature of Alternate Facility (or Generator)								Month	Day	Year	
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)											
1. <b>R132</b>			2.			3.			4.		
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a											
Printed/Typed Name					Signature			Month	Day	Year	

GENERATOR	<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number <b>MND057597940</b>	2. Page 1 of <b>1</b>	3. Emergency Response Phone <b>(800) 483-8719</b>	4. Manifest Tracking Number <b>003024474 FLE</b>			
	5. Generator's Name and Mailing Address <b>International Paper Company 6400 Poolar Avenue Memphis, TN 38197 Generator's Phone: (628) 2204</b>				Generator's Site Address (if different than mailing address) <b>2nd Street South and Central Avenue Cass Lake, MN 56453</b>				
	6. Transporter 1 Company Name <b>Clean Harbors Environmental Services Inc</b>					U.S. EPA ID Number <b>MAD039322250</b>			
	7. Transporter 2 Company Name					U.S. EPA ID Number			
	8. Designated Facility Name and Site Address <b>Clean Harbors Canada Inc 4080 Telfer Road RR#1 Corunna, ON N0N 1G0 Facility's Phone: (519) 864-1071</b>					U.S. EPA ID Number <b>WIR000035204</b>			
	9a. HM:	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))			10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
					No.	Type			
	x	1. <b>RO. UN3077, WASTE ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S., PENTACHLOROPHENOL 1, 9, 9 III (F034)</b>			001	CM	2500	P	F034
	2.								
	3.								
	4.								
14. Special Handling Instructions and Additional Information <b>LCH5670565 EPC#111 CDN MANIFEST # POLICE # UPCA 410407</b>									
15. <b>GENERATOR'S/OFFEROR'S CERTIFICATION:</b> I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.									
Generator's/Offoror's Printed/Typed Name <b>JAMIE LUTHER</b>					Signature <i>Jamie Luther</i>		Month Day Year <b>10 14 09</b>		
INT'L	16. International Shipments <input type="checkbox"/> Import to U.S. <input checked="" type="checkbox"/> Export from U.S. Port of entry/exit: <b>PORT HURON MI</b> Transporter signature (for exports only): _____ Date leaving U.S.: <b>10-15-09</b>								
	17. Transporter Acknowledgment of Receipt of Materials Transporter 1 Printed/Typed Name: <b>BOB LE ROUSSEAU</b> Signature: <i>Bob LeRousseau</i> Month Day Year: <b>10 14 09</b> Transporter 2 Printed/Typed Name: _____ Signature: _____ Month Day Year: _____								
DESIGNATED FACILITY	18. Discrepancy 18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection Manifest Reference Number: _____								
	18b. Alternate Facility (or Generator)					U.S. EPA ID Number			
	Facility's Phone: _____								
	18c. Signature of Alternate Facility (or Generator)					Month Day Year			
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)									
1. <b>H132</b>			2. _____		3. _____		4. _____		
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a									
Printed/Typed Name					Signature		Month Day Year		

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number <b>M N D 0 9 7 5 9 7 9 4 0</b>	2. Page 1 of <b>1</b>	3. Emergency Response Phone <b>(800) 483-3718</b>	4. Manifest Tracking Number <b>003024180 FLE</b>	
5. Generator's Name and Mailing Address <b>International Paper Company 6400 Poular Avenue Memphis, TN 38197 6261-2204</b>			Generator's Site Address (if different than mailing address) <b>2nd Street South and Central Avenue Cass Lake, MN 56633</b>			
6. Transporter 1 Company Name <b>Clean Harbors Environmental Services Inc</b>			U.S. EPA ID Number <b>M A D 0 3 9 3 2 2 5 0</b>			
7. Transporter 2 Company Name			U.S. EPA ID Number			
8. Designated Facility Name and Site Address <b>Clean Harbors Canada Inc 4050 Telfer Road RR#1 Corvina, ON N0N 1G0 (519) 864-1021</b>			U.S. EPA ID Number <b>M I R 0 0 0 0 3 5 2 0 4</b>			
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	<b>1. NO. UN3077, WASTE ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S., (PENTACHLOROPHENOL), 9, PG III (F034)</b>	001	CM	31,900	P	F034
	2.					
	3.					
	4.					
14. Special Handling Instructions and Additional Information <b>1. CH2E70536 EPG#171</b>  <b>ROLL OFF # 410512</b>						
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.						
Generator's/Offoror's Printed/Typed Name <b>JAMIL LUTSME</b>			Signature <i>Jamil Lutsmee</i>		Month <b>10</b>	Day <b>01</b>
16. International Shipments <input type="checkbox"/> Import to U.S. <input checked="" type="checkbox"/> Export from U.S.		Port of entry/exit: <b>PORT HURON MI</b> Date leaving U.S.: <b>10-2-09</b>				
17. Transporter Acknowledgment of Receipt of Materials						
Transporter 1 Printed/Typed Name <b>BUD LE BRASCEUR</b>			Signature <i>Bud Le Brasceur</i>		Month <b>10</b>	Day <b>01</b>
Transporter 2 Printed/Typed Name			Signature		Month	Day
18. Discrepancy						
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection						
18b. Alternate Facility (or Generator)			Manifest Reference Number: U.S. EPA ID Number			
Facility's Phone:						
18c. Signature of Alternate Facility (or Generator)			Signature		Month	Day
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)						
1.	2.	3.	4.			
<b>H132</b>						
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a						
Printed/Typed Name			Signature		Month	Day

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number <b>MND057597940</b>	2. Page 1 of <b>1</b>	3. Emergency Response Phone <b>(800) 483-3718</b>	4. Manifest Tracking Number <b>003024125 FLE</b>		
5. Generator's Name and Mailing Address <b>International Paper Company 6400 Poplar Avenue Memphis, TN 38197 Generator's Phone: (629) 2204</b>				Generator's Site Address (if different than mailing address) <b>2nd Street South and Central Avenue Cass Lake, MN 56633</b>			
6. Transporter 1 Company Name <b>Clean Harbors Environmental Services Inc</b>					U.S. EPA ID Number <b>MA0089322250</b>		
7. Transporter 2 Company Name					U.S. EPA ID Number		
8. Designated Facility Name and Site Address <b>Clean Harbors Canada Inc 4090 Teller Road RR#1 Corunna, ON N0N 1G0 Facility's Phone: (519) 864-1021</b>					U.S. EPA ID Number <b>MIR600035204</b>		
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes	
		No.	Type				
x	UNIDENTIFIED ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S., (F034), 9, PG. II	001	CM	25600	P	F034	
14. Special Handling Instructions and Additional Information <b>R10 + UICU 410407</b>							
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.							
Generator's/Offoror's Printed/Typed Name <b>Jamie Lidstone</b>				Signature <i>Jamie Lidstone</i>		Month Day Year <b>07 21 09</b>	
16. International Shipments <input type="checkbox"/> Import to U.S. Transporter signature (for exports only):		<input checked="" type="checkbox"/> Export from U.S.		Port of entry/exit: <b>TORONTO</b> Date leaving U.S.: <b>07/21/09</b>			
17. Transporter Acknowledgment of Receipt of Materials							
Transporter 1 Printed/Typed Name <b>MIKE LEYSTRA</b>				Signature <i>Mike Leystra</i>		Month Day Year <b>07 21 09</b>	
Transporter 2 Printed/Typed Name				Signature		Month Day Year	
18. Discrepancy							
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection							
18b. Alternate Facility (or Generator) U.S. EPA ID Number							
Facility's Phone:							
18c. Signature of Alternate Facility (or Generator) Month Day Year							
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)							
1. <b>H132</b>		2.		3.		4.	
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a							
Printed/Typed Name				Signature		Month Day Year	

Clean Harbors has the appropriate permits for and will accept the waste the generator is shipping.

SC PW 4/24/2009

Form Approved, OMB No. 2050-0039

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number <b>MND057597940</b>	2. Page 1 of <b>1</b>	3. Emergency Response Phone <b>(800) 483-3718</b>	4. Manifest Tracking Number <b>003024126</b>	<b>FLE</b>	
5. Generator's Name and Mailing Address <b>International Paper Company 6400 Pooler Avenue Memphis, TN 38197 9261-2204</b>			Generator's Site Address (if different than mailing address) <b>2nd Street South and Central Avenue Case Lake, MN 56633</b>				
6. Transporter 1 Company Name <b>Clean Harbors Environmental Services Inc</b>			U.S. EPA ID Number <b>MAD09032200</b>				
7. Transporter 2 Company Name			U.S. EPA ID Number				
8. Designated Facility Name and Site Address <b>Clean Harbors Canada Inc 4090 Teller Road RR#1 Cornwall, ON N0H 1G0 (519) 864-1021</b>			U.S. EPA ID Number <b>MIR00035204</b>				
Facility's Phone:			U.S. EPA ID Number				
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit	13. Waste Codes	
		No.	Type				
X	UN3077, WASTE ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S., (F034), 9, PG III	001	CH	25,900	kg	F034	
14. Special Handling Instructions and Additional Information <b>L 04001640 ERG#171</b>							
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.							
Generator's/Officer's Printed/Typed Name <b>JAMIE KILCOMB</b>			Signature <i>Jamie Kilcomb</i> Month Day Year <b>09 14 09</b>				
16. International Shipments <input type="checkbox"/> Import to U.S. <input checked="" type="checkbox"/> Export from U.S.			Port of entry/exit: <b>PORT HURON</b>				
Transporter signature (for exports only):			Date leaving U.S.:				
17. Transporter Acknowledgment of Receipt of Materials							
Transporter 1 Printed/Typed Name <b>BUD LE BRASSEUR</b>			Signature <i>Bud Le Brasseur</i> Month Day Year <b>09 14 09</b>				
Transporter 2 Printed/Typed Name			Signature				
18. Discrepancy							
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection							
18b. Alternate Facility (or Generator)			Manifest Reference Number:				
Facility's Phone:			U.S. EPA ID Number				
18c. Signature of Alternate Facility (or Generator)			Month Day Year				
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)							
1. <b>H132</b>		2.		3.		4.	
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a							
Printed/Typed Name			Signature				

Clean Harbors has the appropriate permits for and will accept the waste the generator is shipping.

DQ2487947

SC PPW 4/24/2009

Form Approved, OMB No. 2050-0039

Use print or type. (Form designed for use on elite (12-pitch) typewriter.)

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number <b>MND057597940</b>	2. Page 1 of <b>1</b>	3. Emergency Response Phone <b>(800) 483-3718</b>	4. Manifest Tracking Number <b>003024118 FLE</b>				
5. Generator's Name and Mailing Address <b>International Paper Company 6400 Poolar Avenue Memphis, TN 38197 (626)-2204</b>				Generator's Site Address (if different than mailing address) <b>2nd Street South and Central Avenue Cass Lake, MN 56633</b>					
6. Transporter 1 Company Name <b>Robbie D Wood Incorporated</b>				U.S. EPA ID Number <b>ALD067138891</b>					
7. Transporter 2 Company Name <b>Robbie D Wood Inc</b>				U.S. EPA ID Number <b>ALD067138891</b>					
8. Designated Facility Name and Site Address <b>Clean Harbors Canada Inc 4090 Telfer Road RR#1 Corunna, ON N0N 1G0 (519) 864-1021</b>				U.S. EPA ID Number <b>MIR000035204</b>					
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))			10. Containers No. Type		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes	
X	1. <b>UN3077. WASTE ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S., (F034), 9, PG III</b>			13 BG		13053	P	F034	
	2.								
	3.								
	4.								
14. Special Handling Instructions and Additional Information <b>1. CH381579 ERG#171</b>									
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.									
Generator's/Offeror's Printed/Typed Name <b>JAMIE Eldsmoe</b>				Signature <i>Jamie Eldsmoe</i>				Month Day Year <b>19 14 09</b>	
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____									
17. Transporter Acknowledgment of Receipt of Materials									
Transporter 1 Printed/Typed Name <b>Earl Rice</b>				Signature <i>Earl Rice</i>				Month Day Year <b>19 14 09</b>	
Transporter 2 Printed/Typed Name <b>Richard Walker</b>				Signature <i>Richard Walker</i>				Month Day Year <b>19 18 09</b>	
18. Discrepancy									
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection									
18b. Alternate Facility (or Generator) _____ U.S. EPA ID Number _____									
18c. Signature of Alternate Facility (or Generator) _____ Month Day Year _____									
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)									
1. <b>H132</b>		2.		3.		4.			
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a									
Printed/Typed Name				Signature				Month Day Year	

GENERATOR

INTL

TRANSPORTER

DESIGNATED FACILITY

Clean Harbors has the appropriate permits for and will accept the waste the generator is shipping.

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number <b>MND067597940</b>	2. Page 1 of <b>1</b>	3. Emergency Response Phone <b>(800) 483-3718</b>	4. Manifest Tracking Number <b>003024119 FLE</b>	
5. Generator's Name and Mailing Address <b>International Paper Company 6400 Postar Avenue Memphis, TN 38197</b>			Generator's Site Address (if different than mailing address) <b>2nd Street South and Central Avenue Cass Lake, MN 56633</b>			
Generator's Phone: <b>(628) 2204</b>			6. Transporter 1 Company Name <b>Rebble D Wood Incorporated</b>		U.S. EPA ID Number <b>ALD067138891</b>	
7. Transporter 2 Company Name			U.S. EPA ID Number		U.S. EPA ID Number	
8. Designated Facility Name and Site Address <b>Clean Harbors Canada Inc 4090 Telfer Road RR#1 Corunna, ON N0N 1G0</b>			U.S. EPA ID Number <b>MIR000035204</b>			
Facility's Phone: <b>(519) 864-1021</b>						
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit WL/Vol.	13. Waste Codes
		No.	Type			
X	<b>UN3077, WASTE ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S. (F034), 9, PG III</b>			<b>35,160</b>	<b>P</b>	<b>F034</b>
14. Special Handling Instructions and Additional Information <b>1. C1201579 ERO#171</b>						
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.						
Generator's/Officer's Printed/Typed Name <b>Jamie Lutsmao</b>			Signature <i>Jamie Lutsmao</i>		Month <b>9</b>	Day <b>14</b>
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S.			Port of entry/exit: Date leaving U.S.:			
17. Transporter Acknowledgment of Receipt of Materials						
Transporter 1 Printed/Typed Name <b>Earl Rive</b>			Signature <i>Earl Rive</i>		Month <b>9</b>	Day <b>14</b>
Transporter 2 Printed/Typed Name			Signature		Month	Day
18. Discrepancy						
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection						
18b. Alternate Facility (or Generator)			Manifest Reference Number: U.S. EPA ID Number			
Facility's Phone:						
18c. Signature of Alternate Facility (or Generator)			Signature		Month	Day
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)						
1. <b>H132</b>	2.	3.	4.			
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a						
Printed/Typed Name			Signature		Month	Day

Clean Harbors has the appropriate permits for and will accept the waste the generator is shipping.

## **Appendix G**

### **Delineation of Hydraulic Capture Zone**



Barr Engineering Company  
4700 West 77th Street • Minneapolis, MN 55435-4803  
Phone: 952-832-2600 • Fax: 952-832-2601 • [www.barr.com](http://www.barr.com) *An EEO Employer*

---

Minneapolis, MN • Hibbing, MN • Duluth, MN • Ann Arbor, MI • Jefferson City, MO • Bismarck, ND

## Technical Memorandum

**To:** Project File  
**From:** Jeré Mohr, Dave Dahlstrom  
**Subject:** Delineation of Hydraulic Capture Zones - St. Regis Paper Company Site  
**Date:** March 30, 2010  
**Project:** 23/11-0005

### 1.0 Introduction

This memorandum summarizes the methodology used to complete gradient-based hydraulic capture zone delineations for the St. Regis Paper Company Site Operable Units 1 and 3 groundwater extraction systems based on groundwater elevations measured in site monitoring wells. The information presented in this memorandum has been presented previously in the Hydraulic Capture Zone Report submitted to the EPA in March 2008 and is being compiled here for the purposes of creating a comprehensive reference document summarizing the procedures used in the capture zone analysis based on EPA comments on the 2008 Annual Report.

In general, the sections of this document have been copied directly from appropriate sections and appendices of the Hydraulic Capture Zone Report. However, some sections have been revised slightly or expanded to add clarity to the previous discussions. This document is intended solely to summarize and clarify previously presented information; the overall approach and methodology presented in the Hydraulic Capture Zone report has not been altered.

Capture zone evaluations are completed using a set of synoptic water level measurements at site monitoring wells. Prior to contouring, groundwater elevation data at the monitoring points are reviewed based on plots of historic trends and comparisons with nearby data points. Anomalous data identified during this process are not used to generate the groundwater contours. Data points determined to be anomalous are noted on the water level summary table that accompanies the capture zone delineation. No data points were determined to be anomalous for the May 8 or October 2 events. However, water levels in two wells were not obtained for the October 2, 2009 event. Minnesota DNR well (#11016) could not be located and may have been sealed during the

## Technical Memorandum

To: Project File  
From: Jeré Mohr, Dave Dahlstrom  
Subject: Methodology for delineation of hydraulic capture zones, St. Regis Paper Company Site, Cass Lake, MN  
Date: March 30, 2010  
Page: 2

---

pipeline construction project conducted by Enbridge during Fall 2009. In addition, active pipeline construction prevented access to W222.

The input data set for capture zone delineation includes site water level measurements and control point elevations that are calculated as discussed in Section 2. In addition, some of the measured water levels are adjusted, and water levels in the aquifer adjacent to each extraction well are estimated using procedures outlined in Section 3. This input data for the May 8, 2009 event are summarized in table G1 through G5. The Input data for the October 2, 2009 event are summarized in Tables G7 through G10.

## 2.0 Control Point Elevations

The locations of surface water and groundwater elevation measuring points and locations of control points used for the upper aquifer capture zone evaluations are shown on Figure 1. For ease of discussion, control points have been assigned unique identifiers CP-1 through CP-61. This section outlines the procedures used to calculate elevations at each of the control points.

### 2.1 Upgradient Control Points (CP-1 through CP-9)

Water levels upgradient of the site were estimated using a regional groundwater flow model developed for the site.

The observed lake stage was used for the specified-head cells representing Pike Bay and Cass Lake, and the model was re-calibrated to match the water levels measured on May 16, 2006 and regional water level data. Two model calibration targets were added to this calibration. These observations are the hydraulic gradient magnitude and azimuth in Layer 1 of the model upgradient of the site.

The hydraulic gradient magnitude used as a target value was calculated using information from Wells W124 and W127 and Pike Bay for May 8, 2009. The hydraulic gradient magnitude between W124 and Pike Bay was calculated as  $(1306.28 - 1303.5) \text{ ft} / 3600 \text{ ft}$  or  $0.00078 \text{ ft/ft}$ . The hydraulic gradient magnitude between W127 and Pike Bay was calculated as  $(1305.76 - 1303.5) \text{ ft} / 3000 \text{ ft}$  or  $0.00077 \text{ ft/ft}$ . The average of these two values ( $0.000775 \text{ ft/ft}$ ) was used as an observation of the magnitude of hydraulic gradient in the model calibration. It is assumed that this value is also representative of the upper outwash aquifer in the area outlined by the triangle labeled as "Location of Inferred Gradient/Flow Direction" on Figure 1 in Attachment A.

**Technical Memorandum**

To: Project File  
From: Jeré Mohr, Dave Dahlstrom  
Subject: Methodology for delineation of hydraulic capture zones, St. Regis Paper Company Site, Cass Lake, MN  
Date: March 30, 2010  
Page: 3

---

The flow direction target value is inferred based on the observed shape of the PCP and PAH plume in OU1, which trends approximately due east. Without this model calibration target, the available information does not constrain the flow direction in this portion of the model domain and a gradient-based evaluation of the capture zones of the extraction well system produces erroneous results.

The targets are compared during calibration to modeled hydraulic gradient magnitude and azimuth that were calculated between the three points at the vertices of the triangle labeled as “Location of Inferred Gradient/Flow Direction” on Figure 1 of Attachment A.

After calibrating the regional groundwater model as described above, six points along the 1309.0 ft MSL contour line from the head distribution generated by the model were selected and used for upgradient control points for the gradient-based capture zone evaluation. For the evaluation of the May 16, 2006 measurement event, a value of 1309.0 ft MSL was used at these control point locations. To calculate the elevation of these six control points for any other measurement event, it is assumed that the head difference between each control point and W125 remains constant as shown in the following equations:

$$h_{CP-i} = h_{u,5/16/06} - h_{W125,5/16/06} + h_{W125}$$

$$h_{CP-i} = 1309.0 \text{ ft} - 1306.91 \text{ ft} + h_{W125}$$

$$h_{CP-i} = 2.09 \text{ ft} + h_{W125}$$

Where

$h_{CP-i}$  = Head at upgradient control point i where i ranges from 1 to 9

$h_{u,5/16/06}$  = Head at upgradient control points for 5/16/06 measurement event = 1309.0 ft MSL

$h_{W125, 5/16/06}$  = Head at W125 for 5/16/06 measurement event = 1306.91 ft MSL

$h_{W125}$  = Measured groundwater elevation at W125 during the measurement event of interest

## **2.2 Cass Lake, Pike Bay, and Channel Control Points (CP-10 through CP-54)**

The elevations of control points CP-10 through CP-52 located along the shores of Cass Lake and Pike Bay are determined by calculating the difference between the measured surface water

**Technical Memorandum**

To: Project File  
From: Jeré Mohr, Dave Dahlstrom  
Subject: Methodology for delineation of hydraulic capture zones, St. Regis Paper Company Site, Cass Lake, MN  
Date: March 30, 2010  
Page: 4

---

elevation at the railroad staff gauge and the measured groundwater elevation at W215 and adding that value to the measured surface water elevation at the north or south staff gauge as applicable. Well W215 is screened at the base of the upper sand aquifer and is located near the railroad staff gauge. The difference between the elevations at these two locations is assumed to be representative of the difference between hydraulic head at the base of the surficial aquifer and the water elevation in the adjacent surface water features. The Cass Lake and Pike Bay control point elevations are calculated as follows:

$$h_{CL} = h_{W215} - h_{RR} + h_{NS}$$

$$h_{PB} = h_{W215} - h_{RR} + h_{SS}$$

Where

$h_{CL}$  = Head at Cass Lake control points

$h_{RR}$  = Measured surface water elevation at railroad staff gauge

$h_{W215}$  = Measured groundwater elevation at W215

$h_{NS}$  = Measured surface water elevation at north staff gauge

$h_{PB}$  = Head at Pike Bay control points

$h_{SS}$  = Measured surface water elevation at south staff gauge

The two control points along the channel connecting Pike Bay and Cass Lake (CP-53 and CP-54) are located midway between the railroad staff gauge and Pike Bay and Cass Lake, respectively. Therefore, their elevations are calculated as follows:

$$h_{CP-53} = \frac{h_{CL} + h_{W215}}{2}$$

$$h_{CP-54} = \frac{h_{PB} + h_{W215}}{2}$$

Where

$h_{CP-53}$  = Head at northern channel control point CP-53

$h_{CP-54}$  = Head at southern channel control point CP-54

**Technical Memorandum**

To: Project File  
From: Jeré Mohr, Dave Dahlstrom  
Subject: Methodology for delineation of hydraulic capture zones, St. Regis Paper Company Site, Cass Lake, MN  
Date: March 30, 2010  
Page: 5

---

### 2.3 Control Points Between W407 and W223 (CP-55 through CP-58)

There are four control points located between W407 and W223. These points were added to address EPA comments on draft versions of the Hydraulic Capture Zone Report stating that the southern extent of the OU1 capture zone was overestimated. As shown in the following equation, the values of these control points are calculated using logarithmic interpolation between the estimated groundwater elevation at W407 and measured groundwater elevation at W223 to depict the logarithmic decrease in drawdown with increasing distance from W407.

$$h_{CP-i} = h_{W407} + \left( \frac{\log d_{W407-CP-i}}{\log d_{W407-W223}} \right) (h_{W223} - h_{W407})$$

Where

$h_{CP-i}$  = Head at control point i where i ranges from 55 to 58

$h_{W407}$  = Estimated head at W407 (see Section 3)

$d_{W407-CP-i}$  = Distance between control point and W407

$d_{W407-W223}$  = Distance between W407 and W223

$h_{W223}$  = Measured groundwater elevation at W223

### 2.4 Control Point North of W403 (CP-59)

There is one control point located ~10 m north of W403. This point is included to address EPA comments regarding the northern extent of the OU1 capture zone. As with control points CP-55 through CP-58, the elevation of the control point is calculated using logarithmic interpolation between the estimated groundwater elevation at W403 and the measured groundwater elevation at W205 to depict the logarithmic decrease in drawdown moving away from W403.

$$h_{CP-59} = h_{W403} + \left( \frac{\log d_{W403-CP-59}}{\log d_{W403-W205}} \right) (h_{W205} - h_{W403})$$

Where

$h_{CP-59}$  = Head at control point CP-59

$h_{W403}$  = Estimated head at W403 (see Section 3)

**Technical Memorandum**

To: Project File  
From: Jeré Mohr, Dave Dahlstrom  
Subject: Methodology for delineation of hydraulic capture zones, St. Regis Paper Company Site, Cass Lake, MN  
Date: March 30, 2010  
Page: 6

---

$d_{W403-CP-59}$  = Distance between control point CP-59 and W403

$d_{W403-W205}$  = Distance between W403 and W205

$h_{W205}$  = Measured groundwater elevation at W205

## 2.5 Control Point at W114 Location (CP-60)

One control point is located at W114. This point is included to fill in a data gap southeast of the line of extraction wells at OU1. W114 is completed at a similar elevation to W112. Well W114 is not nested with another well completed at the base of the upper sand aquifer as W112 is nested with W212. By symmetry of the positions of W114 and W112/W212 with respect to the OU1 extraction wells and the channel between Pike Bay and Cass Lake, it is reasonable to expect that head differences between the top and base of the surficial aquifer in the area of W114 would be similar to that observed at W112/W212. In general, the control point elevation is calculated by adding the difference in head observed between W212 and W112 to the water level measured at W114 to estimate the head at the base of the aquifer in this location.

$$h_{CP-60} = h_{W114} + (h_{W212} - h_{W112})$$

Where

$h_{CP-60}$  = Head at control point CP-60

$h_{W114}$  = Measured groundwater elevation at W114

$h_{W212}$  = Measured groundwater elevation at W212

$h_{W112}$  = Measured groundwater elevation at W112

Prior to applying the above correction, the water level at W114 is compared to elevations in surrounding wells to ensure it is consistent. For example, for the 5/16/06 data set, the groundwater elevation at W114 was not consistent with surrounding wells and the measured elevation at W212 was used for the head value at CP-60.

## 2.6 Fox Creek Control Point (CP-61)

One control point is included to represent the hydraulic head in the upper outwash aquifer beneath Fox Creek upstream of OU3 as suggested by EPA's consultant in order to reduce the apparent size of the capture zone of the OU3 extraction well system. For the May 16, 2006 data set, the hydraulic head at this

**Technical Memorandum**

To: Project File  
From: Jeré Mohr, Dave Dahlstrom  
Subject: Methodology for delineation of hydraulic capture zones, St. Regis Paper Company Site, Cass Lake, MN  
Date: March 30, 2010  
Page: 7

---

control point was assigned using the regional MODFLOW model. For all other measurement events, the elevation of this control point is determined by assuming that the difference between the control point elevation and the groundwater elevation at Well W2236 remains constant.

$$h_{FC} = h_{W2236} + h_{FC,5/16/06} - h_{W2236,5/16/06}$$

$$h_{FC} = h_{W2236} + 1305.36 \text{ ft} - 1304.82 \text{ ft}$$

$$h_{FC} = h_{W2236} + 0.54 \text{ ft}$$

Where

$h_{FC}$  = Head at Fox Creek control point

$h_{W2236}$  = Head at W2236

$h_{FC,5/16/06}$  = Head at Fox Creek control point from groundwater model calibrated using 5/16/06 data set = 1305.36 ft

$h_{W2236,5/16/06}$  = Groundwater elevation at W2236, 5/16/06 = 1304.82 ft

### 3.0 Adjustments to Measured Water Elevations

In addition to the control points discussed in the previous section, adjustments are made to several of the measured water elevations prior to contouring the data for capture zone analysis. With the exception of the points discussed in this section, groundwater elevation measurements at the monitoring wells are used without adjustment.

#### 3.1 Groundwater Elevations at Extraction Wells

The measured water levels in the pumping wells are not valid with respect to use in contouring the groundwater elevations due to well losses. However, it would also be inappropriate to ignore these wells.

An algorithm was developed to estimate the water level in the upper outwash aquifer adjacent to the extraction well screens. A memo describing this algorithm was included as Appendix E in the Hydraulic Capture Zone Monitoring Report. This memorandum is included as Attachment A to this document.

Since the estimated water levels at some extraction wells are used to calculate control point elevations discussed in the sections 2.3 and 2.4 (e.g. CP-55 through CP-59), the extraction well water elevations are calculated prior to calculating those control point elevations.

**Technical Memorandum**

To: Project File  
From: Jeré Mohr, Dave Dahlstrom  
Subject: Methodology for delineation of hydraulic capture zones, St. Regis Paper Company Site, Cass Lake, MN  
Date: March 30, 2010  
Page: 8

---

## **3.2 Groundwater Elevations at North, South, and Railroad Staff Gauges**

To account for the observed hydraulic head difference between the base of the upper outwash aquifer and surface water features, the surface water elevations measured at the North, South, and Railroad staff gauges are increased by the difference between the Railroad Staff gage measurement and the measured water level at W215 during the synoptic measurement event of interest.

## **4.0 Capture Zone Delineations**

Following calculation of the control point elevations as outlined in Section 2 and adjustments to measured water elevations as outlined in Section 3, the software package GW Contour (Waterloo Hydrogeologic, 2005) is used to generate groundwater elevation contour maps for the upper outwash aquifer using data from each round of water level measurements. GW Contour is a data interpolation and visualization tool that is used to create two-dimensional groundwater data models. A variety of interpolation schemes are available in GW Contour; the contour maps are created using a natural neighbor algorithm. This interpolation scheme was selected because it strictly honors the given data points.

Once the hydraulic head data are contoured, GW Contour can generate flow lines based on the contoured head data. Flowlines generated by GW Contour are then used to delineate the capture zones of the extraction systems in OU1 and OU3. In general, hydraulic capture zones for both the OU1 and OU3 extraction systems are delineated by starting particle traces nearby and downstream of the extraction wells and using the backward particle tracking feature in GW Contour to find the path traveled to get there. As needed, forward traces are also used to refine the capture zone delineations. The particle starting locations are unique for each delineation, since different flow paths are needed to represent the capture zones for each synoptic data set. The head contours and flow lines generated in GW Contour are exported to ArcMap 9 for final presentation.



- Control point
- ⊕ Extraction well
- Staff gauge
- ⊕ Monitoring well/piezometer

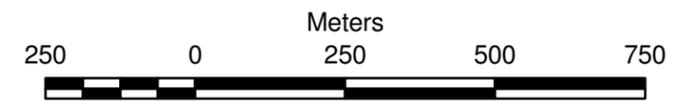
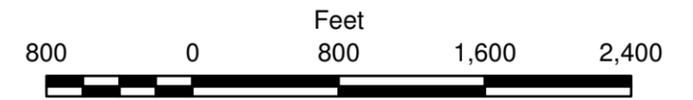


Figure 1

CONTROL POINT LOCATIONS  
 FOR HYDRAULIC CAPTURE  
 ZONE ANALYSIS  
 St. Regis Paper Company Site  
 Cass Lake, Minnesota

**Table G1**

**Water Elevations - May 8, 2009  
Surficial Aquifer (Top at OU3)  
St. Regis Paper Company Site  
Cass Lake Minnesota**

Location	X	Y	GW_Elev	Type
<b>OU1 Water Elevations</b>				
W104	379466.6	5248257	1304.78	W
DNR_#11016	379270	5248352	1305.61	W
S401	379310.1	5248244	1305.22	W
S402	379676.6	5248144	1303.99	W
W205	379829.7	5248326	1303.81	W
W209	379582.8	5248117	1304.35	W
W212	379976.4	5248204	1303.73	W
W213	380009.3	5248096	1303.66	W
W215	380102.5	5248257	1303.6	W
W217	380875	5248320	1303.41	W
W218	379323.8	5248253	1305.17	W
W219	380286.5	5248296	1303.55	W
W220	380087.5	5248006	1303.68	W
W221	380804.6	5248464	1303.45	W
W222	379741.9	5248417	1304	W
W223	379578.7	5247751	1303.94	W
W401	379310.4	5248244	1305.2	E
W402	379676.5	5248144	1303.97	E
W403	379806.9	5248235	1303.63	E
W404	379800.1	5248206	1303.64	E
W405	379787.4	5248144	1303.28	E
W406	379776.6	5248084	1303.34	E
W407	379770.1	5248059	1303.6	E
W408	380007.1	5248103	1303.72	E
W409	379795.2	5248175	1303.38	E
W410	379783.7	5248115	1303.67	E
W411	379764.4	5248265	1303.8	E
W509	379805.7	5248229	1303.71	W
W510	379797.9	5248193	1303.67	W
W511	379791.9	5248162	1303.61	W
W512	379784.6	5248121	1303.69	W
W513	379780.6	5248095	1303.45	W
W514	379773.3	5248066	1303.75	W
North_Staff	380173.3	5248632	1303.6	S
RR_Staff	380114	5248286	1303.6	S
South_Staff	380164.2	5247989	1303.6	S
<b>OU2 Water Elevations</b>				
W124	378417.3	5247810	1306.28	W
W125	378462.2	5247821	1306.42	W
W126	378494.1	5247639	1305.71	W
W127	378551.5	5247650	1305.76	W
W128	378578.4	5247695	1305.9	W
W129	378581.6	5247755	1306.21	W
W130	378392.4	5247695	1305.7	W

**Table G1**

**Water Elevations - May 8, 2009  
Surficial Aquifer (Top at OU3)  
St. Regis Paper Company Site  
Cass Lake Minnesota**

<b>Location</b>	<b>X</b>	<b>Y</b>	<b>GW_Elev</b>	<b>Type</b>
<b>OU3 Water Elevations</b>				
W2102	379007	5247447	1304.93	W
W2103	378997.9	5247417	1304.69	W
W2104	378969.3	5247412	1304.99	W
W2105	378986.3	5247357	1304.54	W
W2106	379049.8	5247417	1304.29	W
W2135	379201.6	5247436	1304.32	W
W2401	379028.6	5247441	1304.11	E
W2403	379029.8	5247390	1303.17	E
W2402	379086.1	5247411	1303.49	E
S2401	379029.7	5247441	1304.22	W
S2403	379030.6	5247390	1303.53	W
S2402	379086.5	5247413	1303.81	W
W2501	379029.5	5247466	1304.73	W
W2502	379060	5247416	1304.37	W
W2504	379031.2	5247415	1304.35	W
W2505	379026.1	5247372	1304.48	W
W2134	379125.4	5247433	1304.35	W
W2127	379040.9	5247296	1304.35	W
W2128	379081.5	5247344	1304.41	W
W2129	379153.7	5247292	1303.8	W
W2140	379130.3	5247391	1304.45	W

Type

W = Measured water level

E = Estimated water level

S = Estimated surface water level

**Table G2**

**Water Elevations - May 8, 2009  
Surficial Aquifer (Bottom at OU3)  
St. Regis Paper Company Site  
Cass Lake, Minnesota**

<b>Location</b>	<b>X</b>	<b>Y</b>	<b>GW_Elev</b>	<b>Type</b>
<b>OU1 Water Elevations</b>				
W104	379466.6	5248257	1304.78	W
DNR_#11016	379270	5248352	1305.61	W
S401	379310.1	5248244	1305.22	W
S402	379676.6	5248144	1303.99	W
W205	379829.7	5248326	1303.81	W
W209	379582.8	5248117	1304.35	W
W212	379976.4	5248204	1303.73	W
W213	380009.3	5248096	1303.66	W
W215	380102.5	5248257	1303.6	W
W217	380875	5248320	1303.41	W
W218	379323.8	5248253	1305.17	W
W219	380286.5	5248296	1303.55	W
W220	380087.5	5248006	1303.68	W
W221	380804.6	5248464	1303.45	W
W222	379741.9	5248417	1304	W
W223	379578.7	5247751	1303.94	W
W401	379310.4	5248244	1305.2	E
W402	379676.5	5248144	1303.97	E
W403	379806.9	5248235	1303.63	E
W404	379800.1	5248206	1303.64	E
W405	379787.4	5248144	1303.28	E
W406	379776.6	5248084	1303.34	E
W407	379770.1	5248059	1303.6	E
W408	380007.1	5248103	1303.72	E
W409	379795.2	5248175	1303.38	E
W410	379783.7	5248115	1303.67	E
W411	379764.4	5248265	1303.8	E
W509	379805.7	5248229	1303.71	W
W510	379797.9	5248193	1303.67	W
W511	379791.9	5248162	1303.61	W
W512	379784.6	5248121	1303.69	W
W513	379780.6	5248095	1303.45	W
W514	379773.3	5248066	1303.75	W
North_Staff	380173.3	5248632	1303.6	S
RR_Staff	380114	5248286	1303.6	S
South_Staff	380164.2	5247989	1303.6	S
<b>OU2 Water Elevations</b>				
W124	378417.3	5247810	1306.28	W
W125	378462.2	5247821	1306.42	W
W126	378494.1	5247639	1305.71	W
W127	378551.5	5247650	1305.76	W
W128	378578.4	5247695	1305.9	W
W129	378581.6	5247755	1306.21	W
W130	378392.4	5247695	1305.7	W

**Table G2**

**Water Elevations - May 8, 2009  
Surficial Aquifer (Bottom at OU3)  
St. Regis Paper Company Site  
Cass Lake, Minnesota**

<b>OU3 Water Elevations</b>				
W2102	379007	5247447	1304.93	W
W2103	378997.9	5247417	1304.69	W
W2104	378969.3	5247412	1304.99	W
W2105	378986.3	5247357	1304.54	W
W2106	379049.8	5247417	1304.29	W
W2135	379201.6	5247436	1304.32	W
W2234	379127.9	5247433	1304.41	W
W2233	379014.5	5247490	1304.94	W
W2236	378948.3	5247345	1304.8	W
W2401	379028.6	5247441	1304.11	E
W2403	379029.8	5247390	1303.17	E
W2402	379086.1	5247411	1303.49	E
W2501	379029.5	5247466	1304.73	W
W2502	379060	5247416	1304.37	W
W2504	379031.2	5247415	1304.35	W
W2505	379026.1	5247372	1304.48	W
W2127	379040.9	5247296	1304.35	W
W2129	379153.7	5247292	1303.8	W
W2228	379080.6	5247342	1304.59	W
W2238	379042.8	5247361	1304.46	W
W2239	378986.7	5247310	1304.98	W
W2140	379130.3	5247391	1304.45	W
W2237R	379004.9	5247331	1304.94	W

Type

W = Measured water level

E = Estimated water level

S = Estimated surface water level

**Table G3**

**Control Points - May 8, 2009  
Surficial Aquifer  
St. Regis Paper Company Site  
Cass Lake, Minnesota**

<b>Name</b>	<b>X</b>	<b>Y</b>	<b>Elev</b>
<b>Upgradient</b>			
CP-1	377479.7	5249103	1308.51
CP-2	377473.5	5248813	1308.51
CP-3	377469.5	5248538	1308.51
CP-4	377473.8	5248264	1308.51
CP-5	377483	5247974	1308.51
CP-6	377507.6	5247714	1308.51
CP-7	377556.3	5247490	1308.51
CP-8	377624.6	5247271	1308.51
CP-9	377795.1	5246953	1308.51
<b>Cass Lake Control Points</b>			
CP-10	379875.3	5249129	1303.6
CP-11	379920.1	5249034	1303.6
CP-12	379904.3	5248955	1303.6
CP-13	379946.4	5248892	1303.6
CP-14	379988.5	5248805	1303.6
CP-15	380033.3	5248734	1303.6
CP-16	380101.8	5248689	1303.6
CP-17	380288.8	5248631	1303.6
CP-18	380386.2	5248613	1303.6
CP-19	380481.1	5248589	1303.6
CP-20	380578.5	5248591	1303.6
CP-21	380673.3	5248605	1303.6
CP-22	380765.5	5248636	1303.6
CP-23	380860.3	5248681	1303.6
CP-24	380939.3	5248721	1303.6
CP-25	381015.7	5248771	1303.6
CP-26	381073.7	5248834	1303.6
<b>Pike Bay Control Pnts</b>			
CP-27	381084.2	5248099	1303.6
CP-28	380926.2	5248059	1303.6
CP-29	380799.8	5248038	1303.6
CP-30	380747.1	5247951	1303.6
CP-31	380647	5247922	1303.6
CP-32	380554.8	5247888	1303.6
CP-33	380452.1	5247933	1303.6
CP-34	380349.4	5247943	1303.6
CP-35	380257.2	5247933	1303.6
CP-36	380175.5	5247888	1303.6
CP-37	380125.5	5247825	1303.6
CP-38	380064.9	5247796	1303.6
CP-39	379985.9	5247751	1303.6
CP-40	379941.1	5247706	1303.6
CP-41	379848.9	5247661	1303.6
CP-42	379764.7	5247603	1303.6
CP-43	379706.7	5247538	1303.6

**Table G3**

**Control Points - May 8, 2009  
Surficial Aquifer  
St. Regis Paper Company Site  
Cass Lake, Minnesota**

<b>Name</b>	<b>X</b>	<b>Y</b>	<b>Elev</b>
CP-44	379617.2	5247487	1303.6
CP-45	379522.3	5247432	1303.6
CP-46	379469.7	5247377	1303.6
CP-47	379411.7	5247314	1303.6
CP-48	379385.4	5247232	1303.6
CP-49	379385.4	5247161	1303.6
CP-50	379372.2	5247090	1303.6
CP-51	379335.3	5247019	1303.6
CP-52	379306.4	5246971	1303.6
<b>Channel Control Points</b>			
CP-53	380143.7	5248477	1303.6
CP-54	380143.7	5248107	1303.6
<b>W407 &amp; W223 Control Points</b>			
CP-55	379770	5248049	1303.73
CP-56	379743.6	5248008	1303.83
CP-57	379689.3	5247922	1303.89
CP-58	379632.9	5247835	1303.92
<b>W403 &amp; W205 Control Point</b>			
CP-59	379807.5	5248245	1303.72
<b>W114 Control Point</b>			
CP-60	379933.9	5248002	1303.89
<b>Fow Creek Control Point</b>			
CP-61	378707	5247392	1305.34

**Table G4**

**Water Elevations - May 8, 2009  
Lower Aquifer  
St. Regis Paper Company Site  
Cass Lake, Minnesota**

<b>Name</b>	<b>X</b>	<b>Y</b>	<b>GW_Elev</b>
<b>OU1 Water Elevations</b>			
MW3	378910.5	5248326	1307.05
W302	379138	5248328	1306.67
W306	379806.1	5248237	1304.1
<b>OU3 Water Elevations</b>			
W2301	378909.3	5247547	1305.29
W2325	378858.4	5247469	1305.29
W2326	378889	5247365	1305.23
W2333	379012	5247495	1305.13
W2335	379196.9	5247439	1304.74
W2336	378946	5247345	1304.92
W2329	379161.1	5247303	1304.63
W2339	378987.4	5247308	1304.66

Table G5

Control Points - May 8, 2009  
Lower Aquifer  
St. Regis Paper Company Site  
Cass Lake, Minnesota

ID	X	Y	Elev
<b>Cass Lake Control Points</b>			
CP-10	379875.3	5249129	1303.5
CP-11	379920.1	5249034	1303.5
CP-12	379904.3	5248955	1303.5
CP-13	379946.4	5248892	1303.5
CP-14	379988.5	5248805	1303.5
CP-15	380033.3	5248734	1303.5
CP-16	380101.8	5248689	1303.5
CP-17	380288.8	5248631	1303.5
CP-18	380386.2	5248613	1303.5
CP-19	380481.1	5248589	1303.5
CP-20	380578.5	5248591	1303.5
CP-21	380673.3	5248605	1303.5
CP-22	380765.5	5248636	1303.5
CP-23	380860.3	5248681	1303.5
CP-24	380939.3	5248721	1303.5
CP-25	381015.7	5248771	1303.5
CP-26	381073.7	5248834	1303.5
<b>Pike Bay Control Points</b>			
CP-27	381084.2	5248099	1303.5
CP-28	380926.2	5248059	1303.5
CP-29	380799.8	5248038	1303.5
CP-30	380747.1	5247951	1303.5
CP-31	380647	5247922	1303.5
CP-32	380554.8	5247888	1303.5
CP-33	380452.1	5247933	1303.5
CP-34	380349.4	5247943	1303.5
CP-35	380257.2	5247933	1303.5
CP-36	380175.5	5247888	1303.5
CP-37	380125.5	5247825	1303.5
CP-38	380064.9	5247796	1303.5
CP-39	379985.9	5247751	1303.5
CP-40	379941.1	5247706	1303.5
CP-41	379848.9	5247661	1303.5
CP-42	379764.7	5247603	1303.5
CP-43	379706.7	5247538	1303.5
CP-44	379617.2	5247487	1303.5
CP-45	379522.3	5247432	1303.5
CP-46	379469.7	5247377	1303.5
CP-47	379411.7	5247314	1303.5
CP-48	379385.4	5247232	1303.5
CP-49	379385.4	5247161	1303.5
CP-50	379372.2	5247090	1303.5
CP-51	379335.3	5247019	1303.5
CP-52	379306.4	5246971	1303.5

**Table G5**

**Control Points - May 8, 2009  
Lower Aquifer  
St. Regis Paper Company Site  
Cass Lake, Minnesota**

<b>ID</b>	<b>X</b>	<b>Y</b>	<b>Elev</b>
<b>Channel Control Points</b>			
CP-53	380143.7	5248477	1303.5
CP-54	380143.7	5248107	1303.5

Table G-6

Water Elevations - October 2, 2009  
 Surficial Aquifer (Top at OU3)  
 St. Regis Paper Company Site  
 Cass Lake, Minnesota

Location	X	Y	GW Elev	Type
W104	379466.6	5248257	1303.91	W
DNR_#11016	379270	5248352	1305.03	W
S401	379310.1	5248244	1304.34	W
S402	379676.6	5248144	1302.78	W
W205	379829.7	5248326	1302.76	W
W209	379582.8	5248117	1303.33	W
W212	379976.4	5248204	1302.45	W
W213	380009.3	5248096	1302.36	W
W215	380102.5	5248257	1302.45	W
W217	380875	5248320	1302.26	W
W218	379323.8	5248253	1304.49	W
W219	380286.5	5248296	1302.25	W
W220	380087.5	5248006	1302.34	W
W221	380804.6	5248464	1302.3	W
W222	379741.9	5248417	1302.97	W
W223	379578.7	5247751	1303.11	W
W401	379310.4	5248244	1304.32	E
W402	379676.5	5248144	1302.75	E
W403	379806.9	5248235	1302.32	E
W404	379800.1	5248206	1302.16	E
W405	379787.4	5248144	1302	E
W406	379776.6	5248084	1302.06	E
W407	379770.1	5248059	1302.36	E
W408	380007.1	5248103	1302.46	E
W409	379795.2	5248175	1302.04	E
W410	379783.7	5248115	1302.3	E
W411	379764.4	5248265	1302.65	E
W509	379805.7	5248229	1302.4	W
W510	379797.9	5248193	1302.37	W
W511	379791.9	5248162	1302.34	W
W512	379784.6	5248121	1302.34	W
W513	379780.6	5248095	1302.18	W
W514	379773.3	5248066	1302.5	W
North_Staff	380173.3	5248632	1302.35	S
RR_Staff	380114	5248286	1302.45	S
South_Staff	380164.2	5247989	1302.35	S
<b>OU2 Water Elevations</b>				
W124	378417.3	5247810	1307.09	W
W125	378462.2	5247821	1307.1	W
W126	378494.1	5247639	1306.2	W
W127	378551.5	5247650	1306.17	W
W128	378578.4	5247695	1306.2	W
W129	378581.6	5247755	1306.43	W
W130	378392.4	5247695	1306.49	W
<b>OU3 Water Elevations</b>				
W2102	379007	5247447	1304.44	W

**Table G-6**

**Water Elevations - October 2, 2009  
Surficial Aquifer (Top at OU3)  
St. Regis Paper Company Site  
Cass Lake, Minnesota**

<b>Location</b>	<b>X</b>	<b>Y</b>	<b>GW Elev</b>	<b>Type</b>
W2103	378997.9	5247417	1304.3	W
W2104	378969.3	5247412	1304.58	W
W2105	378986.3	5247357	1304.38	W
W2106	379049.8	5247417	1303.97	W
W2135	379201.6	5247436	1303.71	W
W2401	379028.6	5247441	1303.49	E
W2403	379029.8	5247390	1303.02	E
W2402	379086.1	5247411	1303.1	E
S2401	379029.7	5247441	1303.67	W
S2403	379030.6	5247390	1303.31	W
S2402	379086.5	5247413	1303.36	W
W2501	379029.5	5247466	1304.29	W
W2502	379060	5247416	1304	W
W2504	379031.2	5247415	1303.98	W
W2505	379026.1	5247372	1304.15	W
W2134	379125.4	5247433	1303.83	W
W2127	379040.9	5247296	1304.01	W
W2128	379081.5	5247344	1304.05	W
W2129	379153.7	5247292	1303.49	W
W2140	379130.3	5247391	1303.97	W

Type

W = Measured water level

E = Estimated water level

S = Estimated surface water level

Table G-7

Groundwater Elevations - October 2, 2009  
 Surficial Aquifer (Bottom at OU3)  
 St. Regis Paper Company Site  
 Cass Lake, Minnesota

Location	X	Y	GW_Elev	Type
<b>OU1 Water Elevations</b>				
W104	379466.6	5248257	1303.91	W
DNR_#11016	379270	5248352	1305.03	W
S401	379310.1	5248244	1304.34	W
S402	379676.6	5248144	1302.78	W
W205	379829.7	5248326	1302.76	W
W209	379582.8	5248117	1303.33	W
W212	379976.4	5248204	1302.45	W
W213	380009.3	5248096	1302.36	W
W215	380102.5	5248257	1302.45	W
W217	380875	5248320	1302.26	W
W218	379323.8	5248253	1304.49	W
W219	380286.5	5248296	1302.25	W
W220	380087.5	5248006	1302.34	W
W221	380804.6	5248464	1302.3	W
W222	379741.9	5248417	1302.97	W
W223	379578.7	5247751	1303.11	W
W401	379310.4	5248244	1304.32	E
W402	379676.5	5248144	1302.75	E
W403	379806.9	5248235	1302.32	E
W404	379800.1	5248206	1302.16	E
W405	379787.4	5248144	1302	E
W406	379776.6	5248084	1302.06	E
W407	379770.1	5248059	1302.36	E
W408	380007.1	5248103	1302.46	E
W409	379795.2	5248175	1302.04	E
W410	379783.7	5248115	1302.3	E
W411	379764.4	5248265	1302.65	E
W509	379805.7	5248229	1302.4	W
W510	379797.9	5248193	1302.37	W
W511	379791.9	5248162	1302.34	W
W512	379784.6	5248121	1302.34	W
W513	379780.6	5248095	1302.18	W
W514	379773.3	5248066	1302.5	W
North_Staff	380173.3	5248632	1302.35	S
RR_Staff	380114	5248286	1302.45	S
South_Staff	380164.2	5247989	1302.35	S
<b>OU2 Water Elevations</b>				
W124	378417.3	5247810	1307.09	W
W125	378462.2	5247821	1307.1	W
W126	378494.1	5247639	1306.2	W
W127	378551.5	5247650	1306.17	W
W128	378578.4	5247695	1306.2	W
W129	378581.6	5247755	1306.43	W
W130	378392.4	5247695	1306.49	W
W231	378361.6	5247689	1306.49	W

**Table G-7**

**Groundwater Elevations - October 2, 2009  
Surficial Aquifer (Bottom at OU3)  
St. Regis Paper Company Site  
Cass Lake, Minnesota**

<b>Location</b>	<b>X</b>	<b>Y</b>	<b>GW_Elev</b>	<b>Type</b>
<b>OU3 Water Elevations</b>				
W2102	379007	5247447	1304.44	W
W2103	378997.9	5247417	1304.3	W
W2104	378969.3	5247412	1304.58	W
W2105	378986.3	5247357	1304.38	W
W2106	379049.8	5247417	1303.97	W
W2135	379201.6	5247436	1303.71	W
W2234	379127.9	5247433	1303.89	W
W2233	379014.5	5247490	1304.48	W
W2236	378948.3	5247345	1304.69	W
W2401	379028.6	5247441	1303.49	E
W2403	379029.8	5247390	1303.02	E
W2402	379086.1	5247411	1303.1	E
W2501	379029.5	5247466	1304.29	W
W2502	379060	5247416	1304	W
W2504	379031.2	5247415	1303.98	W
W2505	379026.1	5247372	1304.15	W
W2127	379040.9	5247296	1304.01	W
W2129	379153.7	5247292	1303.49	W
W2228	379080.6	5247342	1304.19	W
W2238	379042.8	5247361	1304.22	W
W2239	378986.7	5247310	1304.66	W
W2140	379130.3	5247391	1303.97	W
W2237R	379004.9	5247331	1304.63	W

Type

W = Measured water level

E = Estimated water level

S = Estimated surface water level

**Table G-8**

**Control Points - October 2, 2009  
Surficial Aquifer  
St Regis Paper Company Site  
Cass Lake, Minnesota**

<b>ID</b>	<b>X</b>	<b>Y</b>	<b>Elev</b>
<b>Upgradient Control Points</b>			
CP-1	377479.7	5249103	1309.19
CP-2	377473.5	5248813	1309.19
CP-3	377469.5	5248538	1309.19
CP-4	377473.8	5248264	1309.19
CP-5	377483	5247974	1309.19
CP-6	377507.6	5247714	1309.19
CP-7	377556.3	5247490	1309.19
CP-8	377624.6	5247271	1309.19
CP-9	377795.1	5246953	1309.19
<b>Cass Lake Control Points</b>			
CP-10	379875.3	5249129	1302.35
CP-11	379920.1	5249034	1302.35
CP-12	379904.3	5248955	1302.35
CP-13	379946.4	5248892	1302.35
CP-14	379988.5	5248805	1302.35
CP-15	380033.3	5248734	1302.35
CP-16	380101.8	5248689	1302.35
CP-17	380288.8	5248631	1302.35
CP-18	380386.2	5248613	1302.35
CP-19	380481.1	5248589	1302.35
CP-20	380578.5	5248591	1302.35
CP-21	380673.3	5248605	1302.35
CP-22	380765.5	5248636	1302.35
CP-23	380860.3	5248681	1302.35
CP-24	380939.3	5248721	1302.35
CP-25	381015.7	5248771	1302.35
CP-26	381073.7	5248834	1302.35
<b>Pike Bay Control Pnts</b>			
CP-27	381084.2	5248099	1302.35
CP-28	380926.2	5248059	1302.35
CP-29	380799.8	5248038	1302.35
CP-30	380747.1	5247951	1302.35
CP-31	380647	5247922	1302.35
CP-32	380554.8	5247888	1302.35
CP-33	380452.1	5247933	1302.35
CP-34	380349.4	5247943	1302.35
CP-35	380257.2	5247933	1302.35
CP-36	380175.5	5247888	1302.35
CP-37	380125.5	5247825	1302.35
CP-38	380064.9	5247796	1302.35
CP-39	379985.9	5247751	1302.35
CP-40	379941.1	5247706	1302.35
CP-41	379848.9	5247661	1302.35
CP-42	379764.7	5247603	1302.35
CP-43	379706.7	5247538	1302.35

Table G-8

Control Points - October 2, 2009  
Surficial Aquifer  
St Regis Paper Company Site  
Cass Lake, Minnesota

ID	X	Y	Elev
CP-44	379617.2	5247487	1302.35
CP-45	379522.3	5247432	1302.35
CP-46	379469.7	5247377	1302.35
CP-47	379411.7	5247314	1302.35
CP-48	379385.4	5247232	1302.35
CP-49	379385.4	5247161	1302.35
CP-50	379372.2	5247090	1302.35
CP-51	379335.3	5247019	1302.35
CP-52	379306.4	5246971	1302.35
<b>Channel Control Points</b>			
CP-53	380143.7	5248477	1302.4
CP-54	380143.7	5248107	1302.4
<b>W407 &amp; W223 Control Points</b>			
CP-55	379770	5248049	1302.65
CP-56	379743.6	5248008	1302.87
CP-57	379689.3	5247922	1303
CP-58	379632.9	5247835	1303.07
<b>W403 &amp; W205 Control Point</b>			
CP-59	379807.5	5248245	1302.54
<b>W114 Control Point</b>			
CP-60	379933.9	5248002	1302.54
<b>Fow Creek Control Point</b>			
CP-61	378707	5247392	1305.23

**Table G9**

**Water Elevations - October 2, 2009  
Lower Aquifer  
St. Regis Paper Company Site  
Cass Lake, Minnesota**

<b>Name</b>	<b>X</b>	<b>Y</b>	<b>GW_Elev</b>
<b>OU1 Water Elevations</b>			
MW3	378910.5	5248326	1306.97
W302	379138	5248328	1306.47
W306	379806.1	5248237	1303.06
<b>OU2 Water Elevations</b>			
W324	378418.6	5247808	1306.81
W329	378580.2	5247751	1306.51
W330	378398.1	5247694	1307.03
<b>OU3 Water Elevations</b>			
W2301	378909.3	5247547	1305.24
W2325	378858.4	5247469	1305.22
W2326	378889	5247365	1305.11
W2333	379012	5247495	1304.83
W2335	379196.9	5247439	1304.15
W2336	378946	5247345	1304.74
W2329	379161.1	5247303	1304.03
W2339	378987.4	5247308	1304.58

**Table G-10**

**Control Points - October 2, 2009  
Lower Aquifer  
St. Regis Paper Company Site  
Cass Lake, Minnesota**

<b>ID</b>	<b>X</b>	<b>Y</b>	<b>Elev</b>
<b>Upgradient Control Points</b>			
CP-10	379875.3	5249129	1302.1
CP-11	379920.1	5249034	1302.1
CP-12	379904.3	5248955	1302.1
CP-13	379946.4	5248892	1302.1
CP-14	379988.5	5248805	1302.1
CP-15	380033.3	5248734	1302.1
CP-16	380101.8	5248689	1302.1
CP-17	380288.8	5248631	1302.1
CP-18	380386.2	5248613	1302.1
CP-19	380481.1	5248589	1302.1
CP-20	380578.5	5248591	1302.1
CP-21	380673.3	5248605	1302.1
CP-22	380765.5	5248636	1302.1
CP-23	380860.3	5248681	1302.1
CP-24	380939.3	5248721	1302.1
CP-25	381015.7	5248771	1302.1
CP-26	381073.7	5248834	1302.1
<b>Pike Bay Control Pnts</b>			
CP-27	381084.2	5248099	1302.1
CP-28	380926.2	5248059	1302.1
CP-29	380799.8	5248038	1302.1
CP-30	380747.1	5247951	1302.1
CP-31	380647	5247922	1302.1
CP-32	380554.8	5247888	1302.1
CP-33	380452.1	5247933	1302.1
CP-34	380349.4	5247943	1302.1
CP-35	380257.2	5247933	1302.1
CP-36	380175.5	5247888	1302.1
CP-37	380125.5	5247825	1302.1
CP-38	380064.9	5247796	1302.1
CP-39	379985.9	5247751	1302.1
CP-40	379941.1	5247706	1302.1
CP-41	379848.9	5247661	1302.1
CP-42	379764.7	5247603	1302.1
CP-43	379706.7	5247538	1302.1
CP-44	379617.2	5247487	1302.1
CP-45	379522.3	5247432	1302.1
CP-46	379469.7	5247377	1302.1
CP-47	379411.7	5247314	1302.1
CP-48	379385.4	5247232	1302.1
CP-49	379385.4	5247161	1302.1
CP-50	379372.2	5247090	1302.1
CP-51	379335.3	5247019	1302.1
CP-52	379306.4	5246971	1302.1

**Table G-10**

**Control Points - October 2, 2009  
Lower Aquifer  
St. Regis Paper Company Site  
Cass Lake, Minnesota**

<b>Channel Control Points</b>			
CP-53	380143.7	5248477	1302.15
CP-54	380143.7	5248107	1302.15

## **Appendix H**

### **StationID, SampleID & FieldID Cross Reference Summary Table**

## Appendix H

### StationID, SampleID, FieldID Cross Reference Summary Table

Date	LabID	StationID	SampleID	FieldID
01/05/09	K0900104	Secondary	ADSA	TW-0147
01/05/09	K0900104	Effluent	ADSB	TW-0148
01/05/09	K0900104	Primary	ADSC	TW-0149
01/05/09	K0900104	INF	INF	TW-0150
02/04/09	K0900973	Secondary	ADSA	TW-0151
02/04/09	K0900973	Effluent	ADSB	TW-0152
02/04/09	K0900973	Primary	ADSC	TW-0153
02/04/09	K0900973	INF	INF	TW-0154
02/17/09	K0901463	W220	GW-0550	GW-0550
02/18/09	K0901463	W213	GW-0551	GW-0551
02/18/09	K0901463	W2233	GW-0552	GW-0552
02/18/09	K0901463	W2336	GW-0553	GW-0553
02/19/09	K0901463	W2236	GW-0554	GW-0554
03/04/09	K0901908	Secondary	ADSA	TW-0155
03/04/09	K0901908	Effluent	ADSB	TW-0156
03/04/09	K0901908	Primary	ADSC	TW-0157
03/04/09	K0901908	INF	INF	TW-0158
04/06/09	K0902989	Primary	ADSA	TW-0159
04/06/09	K0902989	Secondary	ADSB	TW-0160
04/06/09	K0902989	Effluent	ADSC	TW-0161
04/06/09	K0902989	INF	INF	TW-0164
05/05/09	K0903985	Primary	ADSA	TW-0165
05/05/09	K0903985	Secondary	ADSB	TW-0166
05/05/09	K0903985	Effluent	ADSC	TW-0167
05/05/09	K0903985	INF	INF	TW-0170
05/11/09	K0904250	W124	GW-0560	GW-0560
05/10/09	K0904250	W125	GW-0561	GW-0561
05/10/09	K0904250	W126	GW-0562	GW-0562
05/11/09	K0904250	W127	GW-0563	GW-0563
05/11/09	K0904250	W128	GW-0564	GW-0564
05/11/09	K0904250	W129	GW-0565	GW-0565
05/10/09	K0904250	W130	GW-0566	GW-0566
05/12/09	K0904250	CL-N	SW-0050	SW-0050
05/12/09	K0904250	CL-S	SW-0051	SW-0051
05/13/09	K0904361	W105R	GW-0568	GW-0568
05/14/09	K0904361	W306	GW-0569	GW-0569
05/13/09	K0904361	W2335	GW-0571	GW-0571
05/13/09	K0904361	W2135	GW-0572	GW-0572
05/14/09	K0904361	W2234	GW-0573	GW-0573
05/14/09	K0904361	W2127	GW-0574	GW-0574
05/14/09	K0904361	FISH4	GW-0578	GW-0578
05/13/09	K0904361	W114	GW-0579	GW-0579
05/13/09	K0904361	W115	GW-0580	GW-0580
05/16/09	K0904439	W2233	GW-0570	GW-0570
05/16/09	K0904439	W2129	GW-0575	GW-0575
05/16/09	K0904439	W2336	GW-0576	GW-0576
05/16/09	K0904439	W2236	GW-0577	GW-0577
05/18/09	K0904439	W220	GW-0585	GW-0585
05/18/09	K0904439	W220	GW-0586	GW-0586

## Appendix H

### StationID, SampleID, FieldID Cross Reference Summary Table

Date	LabID	StationID	SampleID	FieldID
05/18/09	K0904439	W212	GW-0589	GW-0589
05/18/09	K0904439	W212	GW-0590	GW-0590
05/17/09	K0904439	W2239	GW-0596	GW-0596
05/17/09	K0904439	W2339	GW-0597	GW-0597
05/17/09	K0904439	W2140	GW-0598	GW-0598
05/17/09	K0904439	W2238	GW-0600	GW-0600
05/17/09	K0904439	W2237R	GW-0601	GW-0601
05/19/09	K0904507	W2128	GW-0581	GW-0581
05/19/09	K0904507	W213	GW-0584	GW-0584
05/19/09	K0904507	W215	GW-0588	GW-0588
05/19/09	K0904507	W2106	GW-0593	GW-0593
05/19/09	K0904507	W2106	GW-0595	GW-0595
05/19/09	K0904507	W2228	GW-0599	GW-0599
05/19/09	K0904507	DNR #11016	GW-0604	GW-0604
06/03/09	K0905018	Primary	ADSA	TW-0171
06/03/09	K0905018	Secondary	ADSB	TW-0172
06/03/09	K0905018	Effluent	ADSC	TW-0173
06/03/09	K0905018	INF	INF	TW-0176
07/06/09	K0906015	Primary	ADSA	TW-0177
07/06/09	K0906015	Secondary	ADSB	TW-0178
07/06/09	K0906015	Effluent	ADSC	TW-0179
07/06/09	K0906015	INF	INF	TW-0182
08/04/09	K0907040	Primary	ADSA	TW-0183
08/04/09	K0907040	Secondary	ADSB	TW-0184
08/04/09	K0907040	Effluent	ADSC	TW-0185
08/04/09	K0907040	INF	INF	TW-0187
08/25/09	K0907909	W2128	GW-0610	GW-0610
08/25/09	K0907909	W2233	GW-0611	GW-0611
08/25/09	K0907909	W220	GW-0612	GW-0612
08/25/09	K0907909	W212	GW-0613	GW-0613
08/26/09	K0907909	W213	GW-0614	GW-0614
08/26/09	K0907909	W2336	GW-0616	GW-0616
08/26/09	K0907909	W2236	GW-0617	GW-0617
08/26/09	K0907909	W2236	GW-0618	GW-0618
09/10/09	K0908478	Primary	ADSA	TW-0189
09/10/09	K0908478	Secondary	ADSB	TW-0190
09/10/09	K0908478	Effluent	ADSC	TW-0191
09/10/09	K0908478	INF	INF	TW-0194
10/03/09	K0909551	FISH4	Fish4-1	Fish4-1
10/05/09	K0909476	Primary	ADSB	TW-0195
10/05/09	K0909476	Secondary	ADSC	TW-0196
10/05/09	K0909476	Effluent	ADSA	TW-0197
10/05/09	K0909476	INF	INF	TW-0198
10/05/09	K0909551	FISH4	Fish4-2	Fish4-2
10/05/09	K0909551	FISH4	Fish4-2 DUP-1	Fish4-2 DUP-1
10/07/09	K0909601	FISH4	Fish4-3	Fish4-3

## Appendix H

### StationID, SampleID, FieldID Cross Reference Summary Table

Date	LabID	StationID	SampleID	FieldID
11/03/09	K0910671	Secondary	ADSA	TW-0199
11/03/09	K0910671	Effluent	ADSB	TW-0200
11/03/09	K0910671	Primary	ADSC	TW-0203
11/03/09	K0910671	INF	INF	TW-0204
11/10/09	K0911080	W2128	GW-0620	GW-0620
11/10/09	K0911080	W2233	GW-0621	GW-0621
11/10/09	K0911080	W212	GW-0622	GW-0622
11/11/09	K0911080	W220	GW-0623	GW-0623
11/11/09	K0911080	W213	GW-0624	GW-0624
11/11/09	K0911080	W2336	GW-0625	GW-0625
11/11/09	K0911080	W2236	GW-0626	GW-0626
11/11/09	K0911080	W105R	GW-0627	GW-0627
11/12/09	K0911080	W330	GW-0628	GW-0628
11/12/09	K0911080	W324	GW-0629	GW-0629
11/12/09	K0911080	W329	GW-0630	GW-0630
12/08/09	K0911884	Secondary	ADSA	TW-0205
12/08/09	K0911884	Effluent	ADSB	TW-0206
12/08/09	K0911884	Primary	ADSC	TW-0209
12/08/09	K0911884	INF	INF	TW-0210